An Oceanographic Survey of the Canadian Arctic Archipelago March 1983

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Sidney, B.C. V8L 4B2

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AN OCEANOGRAPHIC SURVEY OF THE CANADIAN ARCTIC ARCHIPELAGO MARCH 1983

by

D.B. Fissel, D.D. Lemon and D.N. Knight

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PREFACE

This report was prepared under DSS contract number 035SB.FP941-2-2656 on behalf of the Frozen Sea Research Group, Institute of Ocean Sciences, Sidney, B.C. The Scientific Authority for this contract was Dr. Humfrey Melling.

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ABSTRACT

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Over a fourteen-day period, March 20 to April 2, 1983, 53 profiles of temperature and salinity were determined at 42 locations within the Canadian Arctic Archipelago. Samples for dissolved nutrient anaysis were collected at 19 of these sites. As in March 1982, a progressive warming of waters was evident in the main thermocline between the western boundary of the Archipelago and the central sills. A cooling of the underlying Atlantic Water also occurred with the large horizontal gradients found further west, over the continental shelf and western entrances to the Archipelago. In 1983, thermocline waters were cooler than in 1982 in some areas, notably in eastern M'Clure Strait and in Maclean Strait. Atlantic Waters within the Archipelago were apparently warmer in 1983, although in view of observational uncertainties this conclusion cannot be made with confidence. Other interannual variations noted were a reduction in near-surface salinity and mixed layer depth in the western Archipelago and a reduction in the temperature and stability of waters beneath the surface mixed layer in the eastern Archipelago. The near-surface circulation, based on dynamic computations was similar in 1982 and 1983. Baroclinic flows were generally towards Parry Channel within the Archipelago and weak ($\leq$ 2 cm/s), except in Penny Strait ($\sim$5 cm/s). In western Lancaster Sound, flows of up to 12 cm/s were estimated. Over the continental shelf of the Arctic Ocean currents were weak in 1983. One station pair spanning the continental slope west of M'Clure Strait indicated a 5 cm/s southeastward flow.

Key words: Arctic Archipelago, Arctic Water, Atlantic Water, temperature, salinity.

RESUME

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Cinquante-trois profils de température et salinité ont été déterminés à 42 endroits de l'archipel arctique canadien au cours d'une période de 14 jours, du 20 mars au 2 avril 1983. Des échantillons ont été prelevés à 19 de ces endroits pour l'analyse des matières nutritives dissontes. Un réchauffement progressif des eaux de la principale thermocline était évident en mars 1982 entre la limite ouest de l'archipel et les seuils centraux. Il y avait aussi refroidissement de l'eau atlantique sous-jacent, les importants gradients horizontaux se trouvant plus à l'ouest, au-dessus du plateau continental et des entrées ouest de l'archipel. Les eaux de la thermocline de certaines zones, notamment celles de la partie est du détroit de M'Clure et celles du détroit de Maclean, étaient plus froides en 1983 qu'en 1982. Il semble que les eaux atlantiques de l'archipel étaient plus chaudes en 1983, mais des incertitudes quant aux valeurs observées interdisent d'être catégorique. Les autres variations entre les années comprennent une diminution de la salinité près de la surface et de la profondeur de la couche de mélange dans l'ouest de l'archipel et une réduction de la température et de la stabilitié des eaux sous-jacents à la couche de mélange de surface dans la partie est. La circulation près de la surface, basée sur des calculs dynamiques, était semblable à celles de 1982 et 1983. Les écoulements baroclines s'effectuaient généralement en direction du passage Parry au sein de l'archipel et étaient faibles (≤ 2 cm.s^{-1}) sauf dans le détroit de Penny (~ 5 cm.s^{-1}). Des vitesses d'écoulement alleignant 12 cm.s^{-1} ont été estimées dans la partie ouest du détroit de Lancaster. Les courants du plateau continental de l'océan Arctique étaient faibles en 1983. On a déterminé un écoulement vers le sud-est de 5 cm.s^{-1} à deux stations situées au-dessus du talus continental à l'ouest du détroit de M'Clure.

Mots-cles: Archipel arctique, eau arctique, eau atlantique, température, salinité.

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1. INTRODUCTION

In recent years, a number of industrial proposals have been advanced for the year-round transport of natural resources through the channels of the Canadian Arctic Archipelago. Such developments require a thorough understanding of environmental conditions, including the regional oceanography, both to assess and to minimize the effect on the natural environment and to optimize the efficiency and safety of the proposed development.

As one means of improving understanding of the oceanography of the area, three coordinated field studies were begun in the spring of 1982, and continued in the spring of 1983. This report presents the data and preliminary results from the 1983 portion of one of those studies: an oceanographic survey of selected channels of the Archipelago and portions of the adjacent continental shelf, using a twin-engined aircraft. Results of the 1982 survey have been reported separately by Fissel, Knight and Birch (1983). During the 1983 survey, a total of 53 CTD casts were taken at 43 separate stations, including two repeat casts and a 3.5 hour seven-cast time series in Penny Strait. Water samples were collected at 19 stations for subsequent chemical analysis of dissolved nutrients (nitrate, phosphate and silicate).

Other components of the 1983 program included intensive studies of the oceanography of Viscount Melville Sound and Barrow Strait, conducted by two agencies of the Department of Fisheries and Oceans: the Frozen Sea Research Group (FSRG), Institute of Ocean Sciences, Sidney, B.C. and the Bayfield Laboratory for Marine Science and Surveys (BLMSS), Burlington, Ontario. In both of these programs, time series current meter and water level measurements were collected in addition to CTD profiles. To facilitate use of the combined results of these oceanographic studies simultaneous intercomparison casts were made with the CTD instruments from all three groups at the beginning and at the end of the survey.

The objectives of the 1983 survey were:

1) to identify water masses by their physical and chemical signatures so as to understand their history;

2) to determine interannual variability of water properties by comparing data obtained in 1983 with earlier data available for the same sites and, in particular, with data collected at the same stations in 1982;

3) to determine the spatial variability of water properties within the Archipelago; and

4) to investigate any progressive modifications in water mass signatures dependent on position and residence time in the Archipelago.

Previous oceanographic research in the Arctic Archipelago has been summarized in Fissel, Knight and Birch (1983). The first significant quantities of oceanographic data were collected during the 1950's in the summer open-water season. By the early 1960's, the large-scale summer surveys had delineated the regional water mass characteristics. The first winter and spring measurements were taken from aircraft and over-ice vehicles during the 1960's. Throughout the 1960's and 1970's, improvements in instrumentation and techniques for Arctic use resulted in an increased quality and quantity of oceanographic data. During this period, research tended to be concentrated on intensive studies of relatively small geographical areas. In many cases, the data have yet to be fully analyzed and as yet the individual data sets have not been integrated to provide an improved picture of the regional oceanography.

In this report, a review of the physical characteristics of the region is presented in Section 2. Data collection and analysis procedures are described in Section 3, while complete plots and listings of the CTD and nutrient data are contained in the appendices. In Section 4, 1983 data are used to describe the distribution of water properties and geostrophic currents and are compared to 1982 data to establish interannual variability in those quantities. The measurement program is summarized and major findings are presented in Section 5.

2. PHYSICAL SETTING

The Canadian Arctic Archipelago encompasses a vast area extending from latitude 68°N to 82°N, a north-south distance of 1500 km and from longitude 60°W to 130°W, a distance of 2700 km at 70°N. The area consists of many islands separated by a complex pattern of channels (Figure 1). To the north and west, the region is bounded by the Arctic Ocean and the Beaufort Sea. Three of the largest islands within the area (Ellesmere, Devon and Baffin Islands) mark its eastern boundary. Between Ellesmere Island and the North American mainland, the waterways of the Archipelago are connected to the Baffin Bay-Davis Strait-Labrador Sea by Jones and Lancaster Sounds and Fury and Hecla Strait. Northern Baffin Bay and the Arctic Ocean are directly linked by Nares Strait, separating Ellesmere Island and Greenland (Figure 2).

The region has often been subdivided into three subareas, with the central of these, Parry Channel, consisting of M'Clure Strait, Viscount Melville Sound, Barrow Strait and Lancaster Sound. To the north of Parry Channel lie the Queen Elizabeth Islands and to the south is another complex network of water channels.

The total area of the region is about 2.2 x 10^6 km^2. Of this total, an area of approximately 0.9 x 10^6 km^2 is covered by sea water: 0.3 x 10^6 km^2 to the north of Parry Channel, 0.2 x 10^6 km^2 in Parry Channel itself, and 0.4 x 10^6 km^2 to the south of Parry Channel (Walker, 1977).

2.1 BATHYMETRY

The bathymetry of the area (Figure 2) is complex, with the channels of the Archipelago being shallower than those of the major adjoining oceanic regions, the Arctic Ocean and Baffin Bay. To the north and west, free passage into the Archipelago is limited by the continental shelf, ranging in width from 200 km in the Beaufort Sea to less than 10 km off Ellesmere Island. The continental shelf limits the free passage of water to maximum depths of about 450 m into the Queen Elizabeth Islands (Prince Gustaf Adolf Sea and Peary Channel), to about 380 m into M'Clure Strait and to about 360 m into Amundsen Gulf.

To the east, the study area is bounded by the relatively deep waters of Baffin Bay with depths up to 2300 m. However, exchange between Baffin Bay and the Atlantic Ocean is limited by the presence of the Davis Strait sill at a depth of 700 m. Fury and Hecla Strait provides an alternate connection to Davis Strait by way of Foxe Basin and Hudson Strait. However, Foxe Basin is shallow with maximum depths of less than 200 m while the limiting depth in Fury and Hecla Strait is only 50 m.

Free passage of water through the Archipelago is limited to a maximum depth of about 250 m through Nares Strait. Within the remainder of the region, the next deepest continuous passage occurs at about 125±5 m in Parry Channel with the limiting obstruction occurring in Barrow Strait (based on Natural Resources bathymetric chart no. 26245-A).

Exchanges of water through the Queen Elizabeth Islands are curtailed by the presence of relatively shallow sills in the southern channels connecting this area to: (1) Jones Sound, through Hell Gate (sill depth of 110 m) and

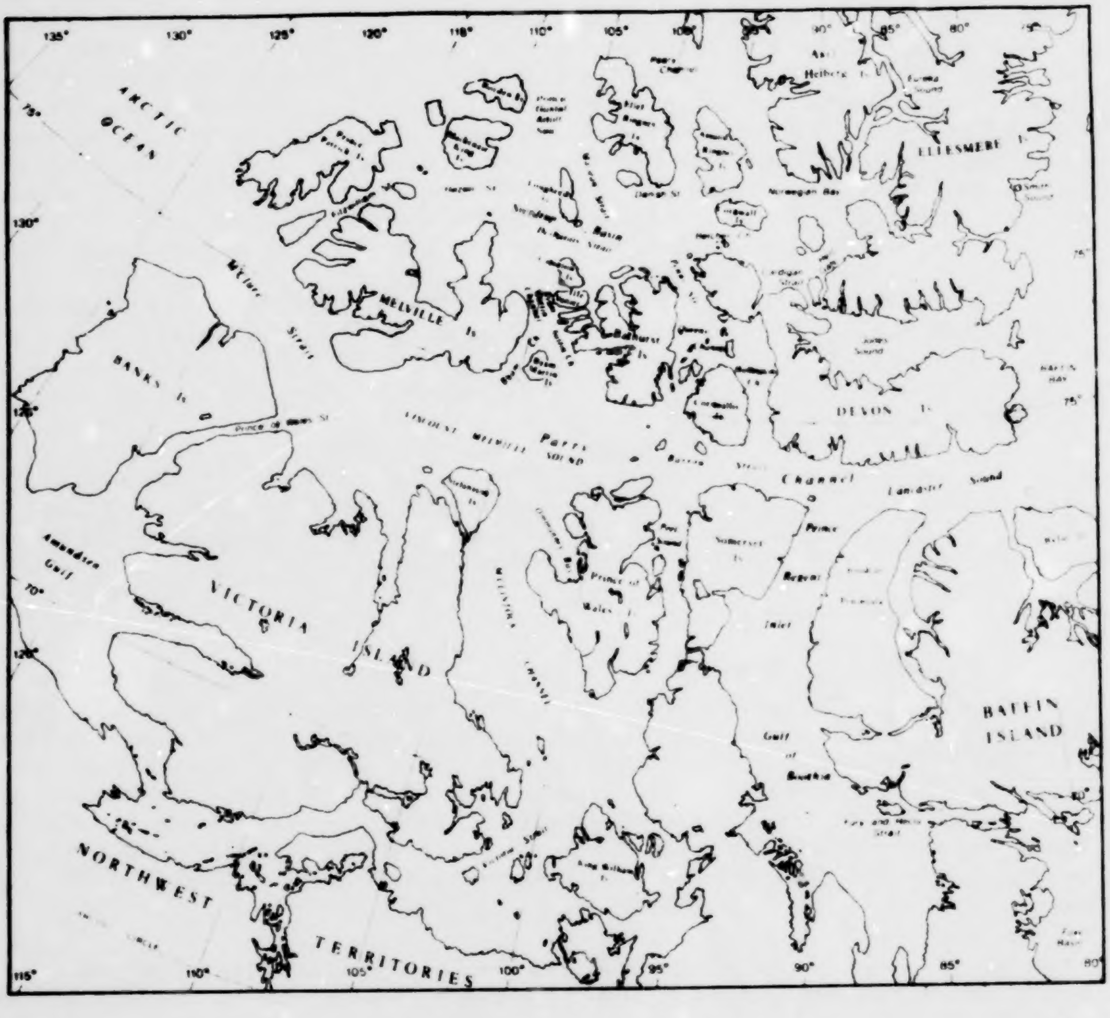
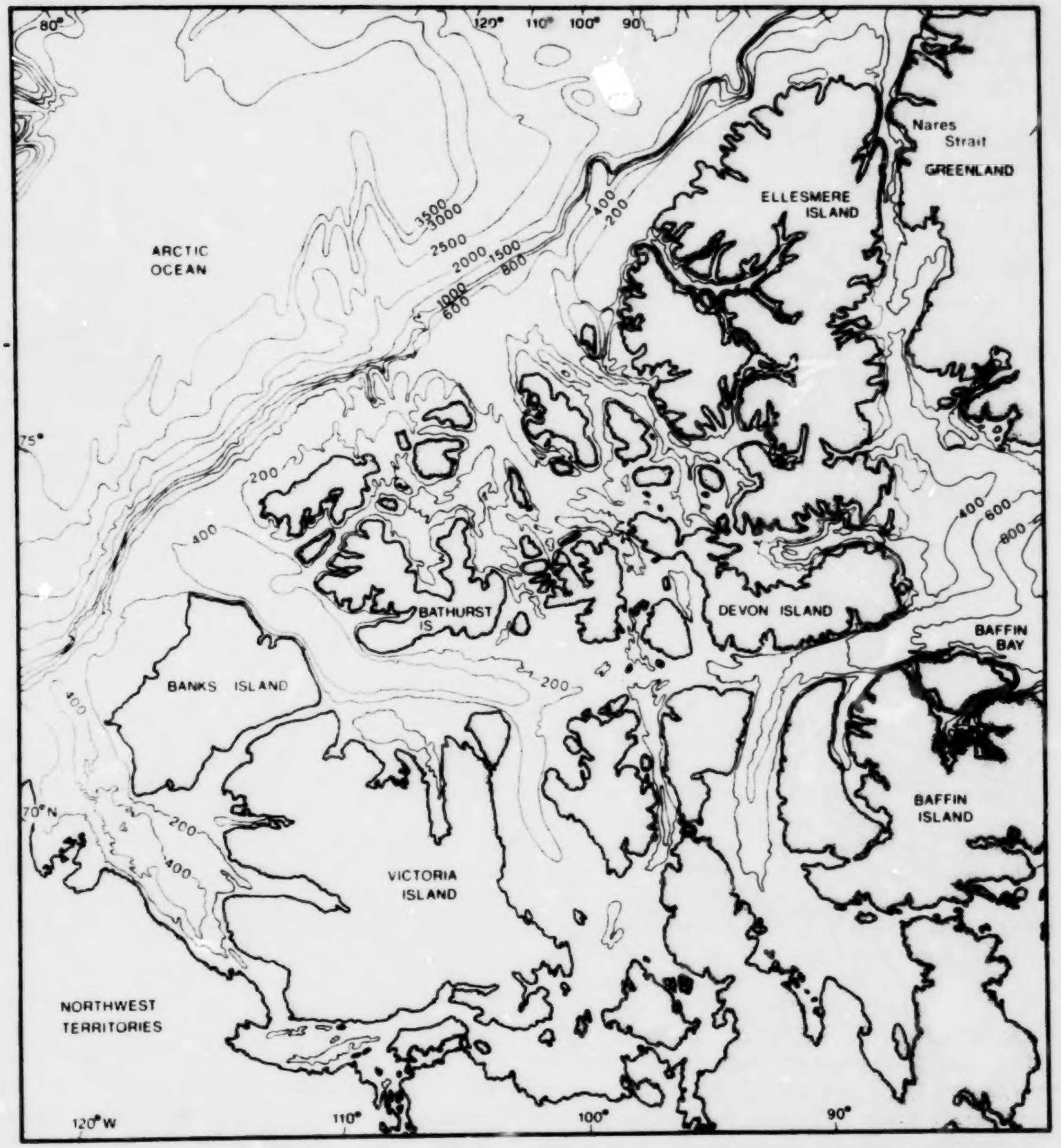

135°
130°
125°
120°
110°
105°
100°
90°
85°
80°
75°
ARCTIC OCEAN
Prince Patrick Is.
M'Clure Strait
MELVILLE Is.
BANKS Is.
Prince of Wales St.
Ellef Ringnes Is.
Axel Heiberg Is.
ELLESMERE Is.
Norwegian Bay
Jones Sound
Bathurst Is.
Cornwallis Is.
DEVON Is.
Baffin Bay
Parry SOUND
Barrow Strait
Channel
Lancaster Sound
Amundsen Gulf
70°
VICTORIA ISLAND
Somerset Is.
Prince Regent Inlet
Prince of Wales Is.
Gulf of Boothia
BAFFIN ISLAND
Fury and Hecla Strait
King William Is.
NORTHWEST TERRITORIES
115°
95°

Figure 1: A map of the Canadian Arctic Archipelago.


80°
120°
110°
100°
90
Nares Strait
GREENLAND
ELLESMERE ISLAND
ARCTIC OCEAN
3500
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600
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400
BATHURST IS
DEVON ISLAND
BAFFIN BAY
BANKS ISLAND
200
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70°N
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400
VICTORIA ISLAND
BAFFIN ISLAND
NORTHWEST TERRITORIES
120°W
110°
100°
90°

Figure 2: The bathymetry of the Canadian Arctic Archipelago, based on the GEBCO map 5-17, published in 1979. Depth contours are displayed at 200 m intervals up to 1000 m. At greater depths, 500 m intervals are used.

Cardigan Strait (120 m); (2) to Lancaster Sound by way of Penny Strait-Queens Channel (85 m); (3) to Barrow Strait by way of Penny Strait-Wellington Channel (73 m); (4) to Viscount Melville Sound by means of Byam Channel (100 m), Austin Channel (102 m) and (5) to M'Clure Strait by means of Fitzwilliam Strait (250 m).

Within the central waterways of the Queen Elizabeth Islands, often referred to as the Sverdrup Basin, the limiting depth appears to be about 380 m for north-south exchanges although depressions occur to about 600 m in Prince Gustaf Adolf Sea. Even deeper depressions to about 1000 m occur further to the east in the Nansen Sound-Greely Fiord system although free exchange with the Arctic Ocean to the north is limited to depths of about 475 m. In the latter waterway, exchange to the south with the Sverdrup Basin is restricted to depths of 90 m in Eureka Sound.

South of Parry Channel, the depths are characteristically shallow with most of the area being less than 200 m in depth. However, deeper water of over 400 m is found extending into Prince Regent Inlet from Lancaster Sound and Baffin Bay. In addition, water with depths in excess of 200 m protrudes into M'Clintock Channel from Viscount Melville Sound and M'Clure Strait. Throughout the remainder of the area, mostly the southerly portion bordering the continental mainland, water depths are typically 100 m or less with only a few depressions of over 200 m depth.

2.2 SEA ICE

Ice Climatology

From the onset of ice formation in September until clearing in the following summer, virtually all of the study area is covered by sea ice in one form or another. The ice cover is a combination of first-year ice, which has formed since the preceding summer and the harder, thicker second and multi-year ices. The average concentration of multi-year ice is highest in the western and northern portions of the Queen Elizabeth Islands, decreasing to the southeastern area where summer clearing is more extensive. Significant quantities of second and multi-year ice are often found in M'Clure Strait, Viscount Melville Sound and M'Clintock Channel. In the remainder of the study area, the presence of multi-year ice is rare.

In most of the study area, the sea ice consolidates in late autumn or early winter, becoming landfast and immobile. However, in some regions the ice remains mobile throughout the winter and into spring. Areas of such sea-ice mobility are often found in the eastern and western ends of Parry Channel, Prince Regent Inlet, northern Baffin Bay and in western Amundsen Gulf. The location of the ice edges forming the boundary between landfast and mobile sea ice exhibits considerable year-to-year variability in most of the regions. For example, in eastern Parry Channel, Marko (1978) has shown that the ice edge location can vary from western Barrow Strait to eastern Lancaster Sound, over a distance of 500 km.

Even in the winter and early spring, certain areas, referred to as polynyas or flaw leads, are found to have open water or be covered with very thin ice. These polynyas tend to recur from one year to another in the same general locations, shown in Figure 3.

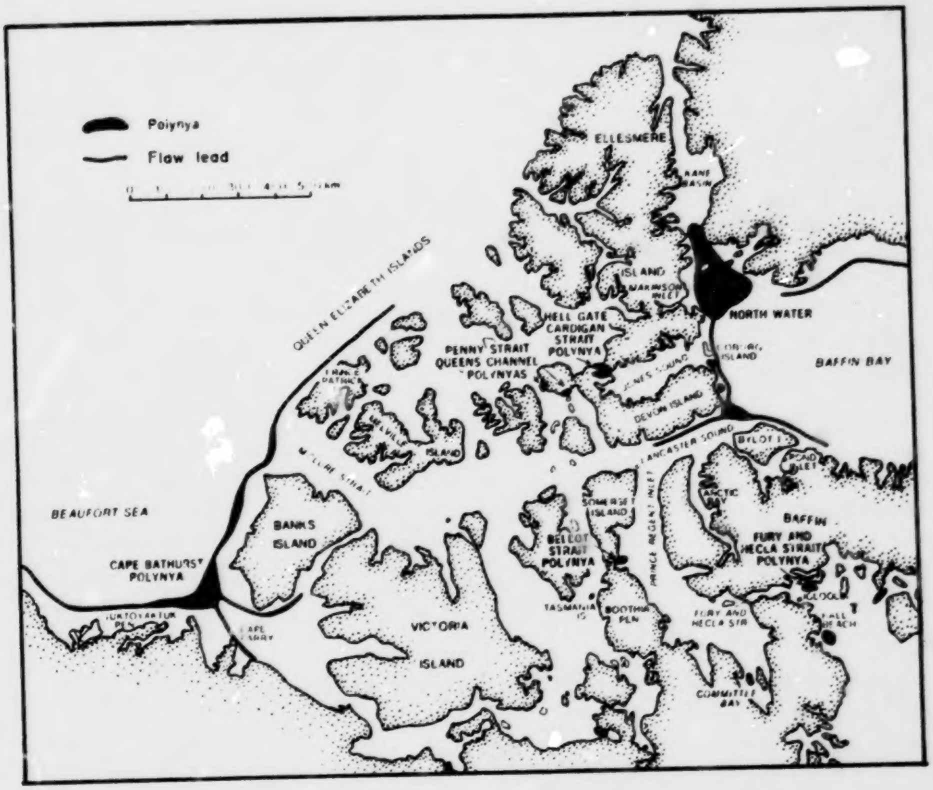

Polynya
Flaw lead
ELLESMERE
KANE BASIN
QUEEN ELIZABETH ISLANDS
ISLAND
MAKINSON INLET
HELL GATE
CARDIGAN STRAIT
POLYNYA
NORTH WATER
PENNY STRAIT
QUEENS CHANNEL
POLYNYAS
COBURG ISLAND
BAFFIN BAY
PRINCE PATRICK
JONES SOUND
DEVON ISLAND
MELVILLE ISLAND
LANCASTER SOUND
BYLOT I.
POND INLET
M'CLURE STRAIT
BEAUFORT SEA
SOMERSET ISLAND
ARCTIC BAY
BAFFIN
BANKS ISLAND
BELLOT STRAIT POLYNYA
PRINCE REGENT INLET
FURY AND HECLA STRAIT POLYNYA
CAPE BATHURST POLYNYA
IGLOOLIK
TUKTOYAKTUK PEN.
CAPE PARRY
TASMANIA IS.
BOOTHIA PEN.
FURY AND HECLA STR.
HALL BEACH
VICTORIA ISLAND
COMMITTEE BAY

Figure 3: Locations of recurring polynyas and flaw leads in the Canadian Arctic Archipelago (from Stirling and Cleator, 1981).

The pattern and extent of sea ice clearing in the study area is quite variable, but some generalizations can be made. Clearing tends to occur to the east through Lancaster Sound into Baffin Bay and to the west through M'Clure Strait and Amundsen Gulf into the Beaufort Sea. The ice from the Queen Elizabeth Islands generally moves southward through the connecting channels into Parry Channel. Sea ice from Parry Channel often collects in M'Clintock Channel, Larsen Sound and Victoria Strait under the influence of prevailing northerly winds, with the result that this area stays congested with sea ice through most of the summer.

In a summer of light ice conditions, complete clearing of sea ice occurs throughout Baffin Bay, Smith, Jones and Lancaster Sounds, Barrow Strait, Prince Regent Inlet, Peel Sound, Wellington and Queens Channels, Norwegian Bay, Eureka Sound, Amundsen Gulf, Prince of Wales Strait and Dolphin and Union Strait, Coronation and Queen Maud Gulfs. The remainder of the study area has varying degrees of ice cover with highest concentrations of more than seven-eighths in the Queen Elizabeth Islands and west of Axel Heiberg Island. In M'Clure Strait, Viscount Melville Sound and M'Clintock Channel, the sea ice is generally limited to two-eighths concentration or less, but some subareas remain with concentrations up to five-eighths.

In a summer of heavy ice conditions, only northern and eastern Baffin Bay, Lancaster Sound, and portions of Barrow Strait, Prince Regent Inlet, Wellington Channel, Peel Sound and Amundsen Gulf are completely free of sea-ice. M'Clure Strait, Viscount Melville Sound and M'Clintock Channel remain covered with unconsolidated ice of greater than seven-eighths concentration. Throughout most of the Queen Elizabeth Islands the sea ice cover is complete and consolidated; only in the southeastern portion around the Norwegian Bay do any openings and appreciable movement of sea ice occur.

Ice Conditions of the Previous Summer (1982)

During the summer preceding the survey, ice conditions in Parry Channel and the Archipelago were moderate. Figures 4 to 6 show the ice conditions at three periods during the summer. The figures were drawn from the weekly AES Ice Central charts for the Arctic. Note that the eastern and western portions of the figures (divided by the dashed line) are separated by two days. The earliest appearance of open water occurred during the week of June 17, when an extensive lead was present at the western end of M'Clure Strait. Open water appeared south of Mould Bay during the week of July 29, and around the Sverdrup Islands during the week of August 3. The maximum simultaneous extent of open water occurred at the beginning of September. By the beginning of October, most of the open water had disappeared.

Ice Observations During Field Studies

Visual observations of ice conditions were made during the period of the survey (March 21 to April 4), and ice thickness was measured at each of the CTD stations. Figure 7 gives a summary of the measured ice thicknesses. Note that the measured thicknesses may not always be representative of the average ice conditions in a particular case, as landings were only made on relatively smooth first-year ice. Rough, multi-year ice and thin areas were not sampled.

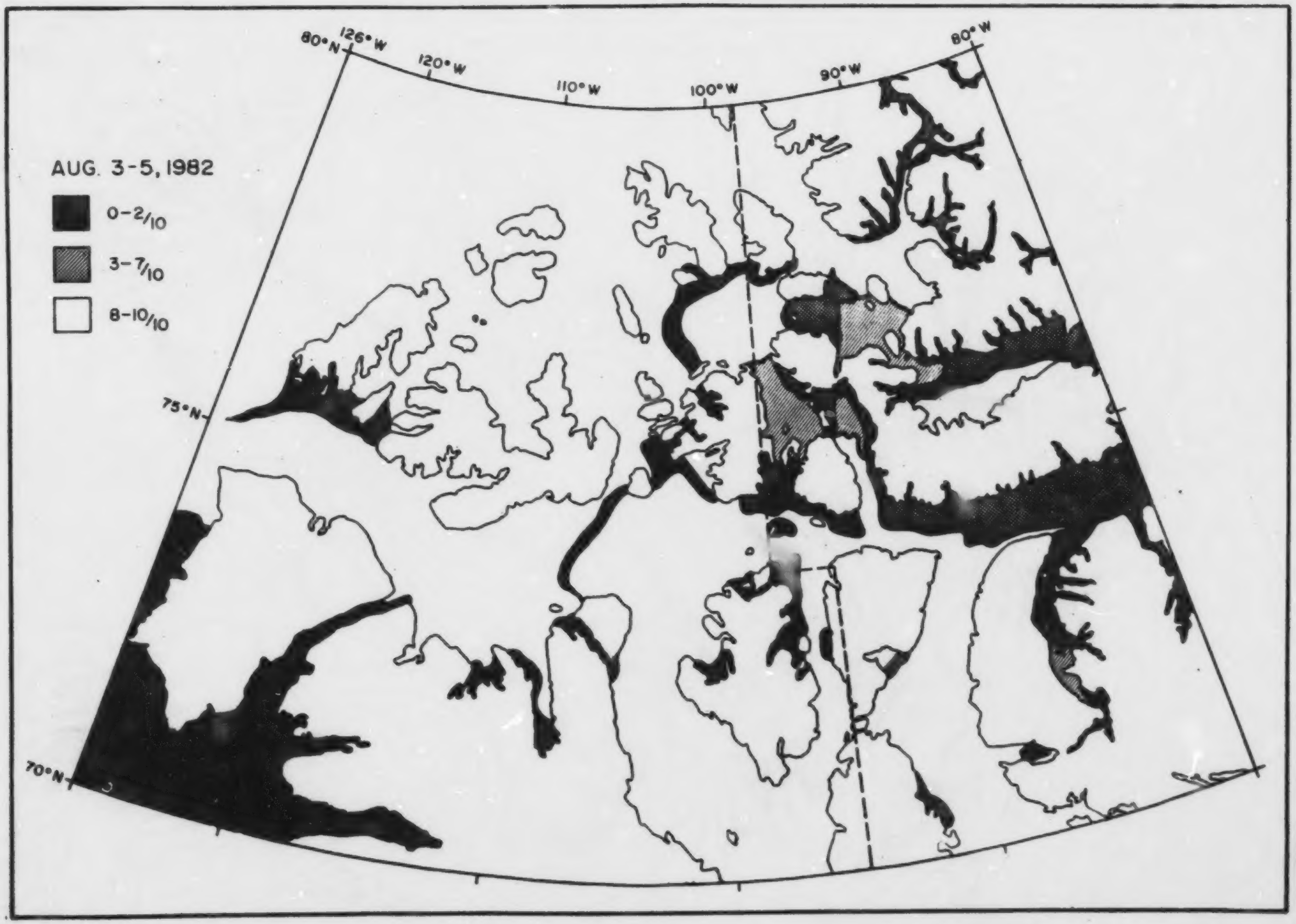

AUG. 3-5, 1982
0-2/10
3-7/10
8-10/10
80°N
126°W
120°W
110°W
100°W
90°W
80°W
75°N
70°N

Figure 4 : Sea ice conditions on August 3-5, 1982, as reproduced from the weekly Ice Central (Atmospheric Environment Service) charts for the Arctic. The dashed line indicates the boundary between individual charts prepared for the East and Western Arctic, separated by two days.

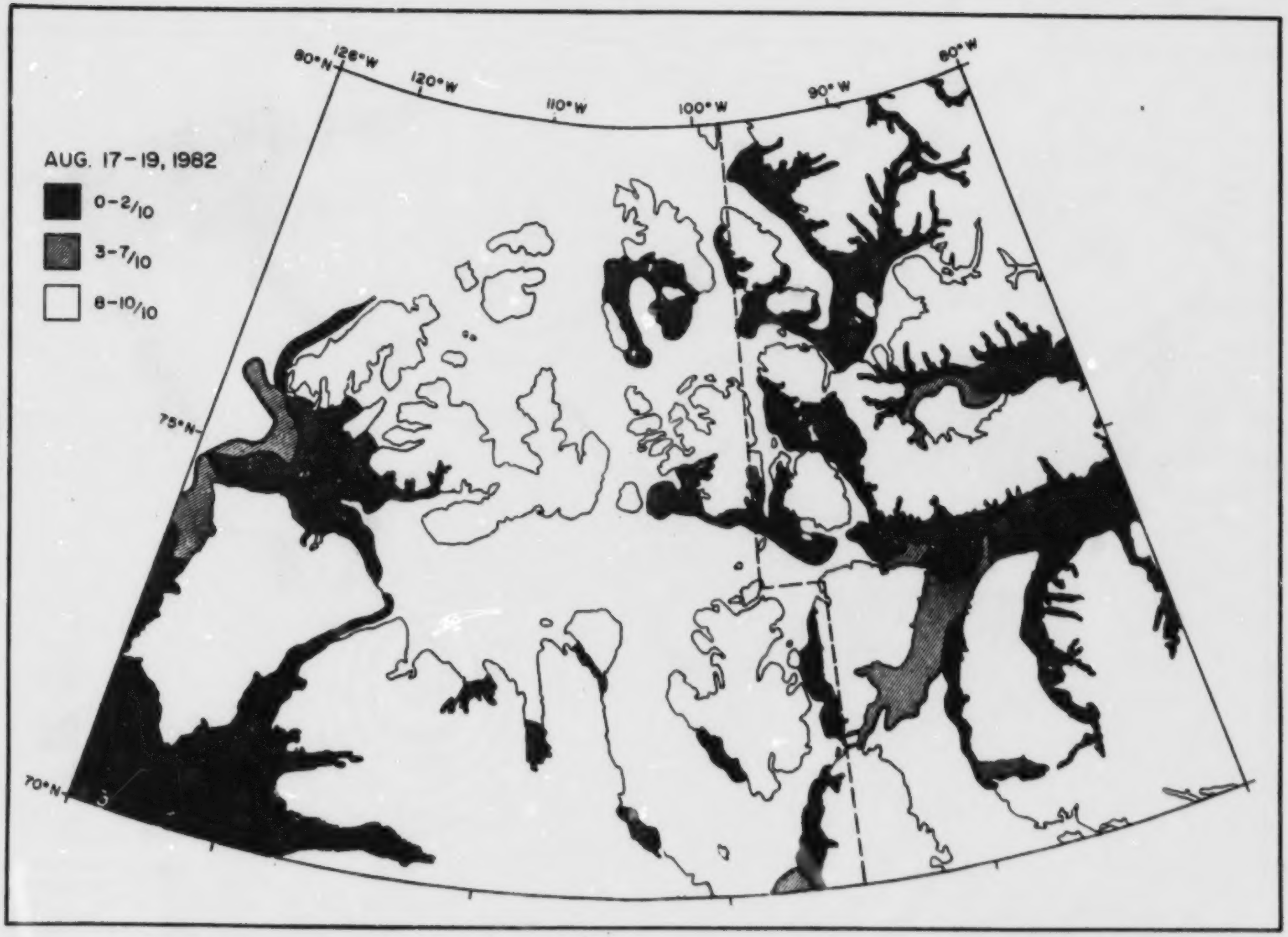

AUG. 17-19, 1982
0-2/10
3-7/10
8-10/10
80°N
126°W
120°W
110°W
100°W
90°W
80°W
75°N
70°N

Figure 5: Sea ice conditions on August 17-19, 1982, as reproduced by the weekly Ice Central (Atmospheric Environment Service) charts for the Arctic. The dashed line indicates the boundary between individual charts prepared for the Eastern and Western Arctic, separated by two days.

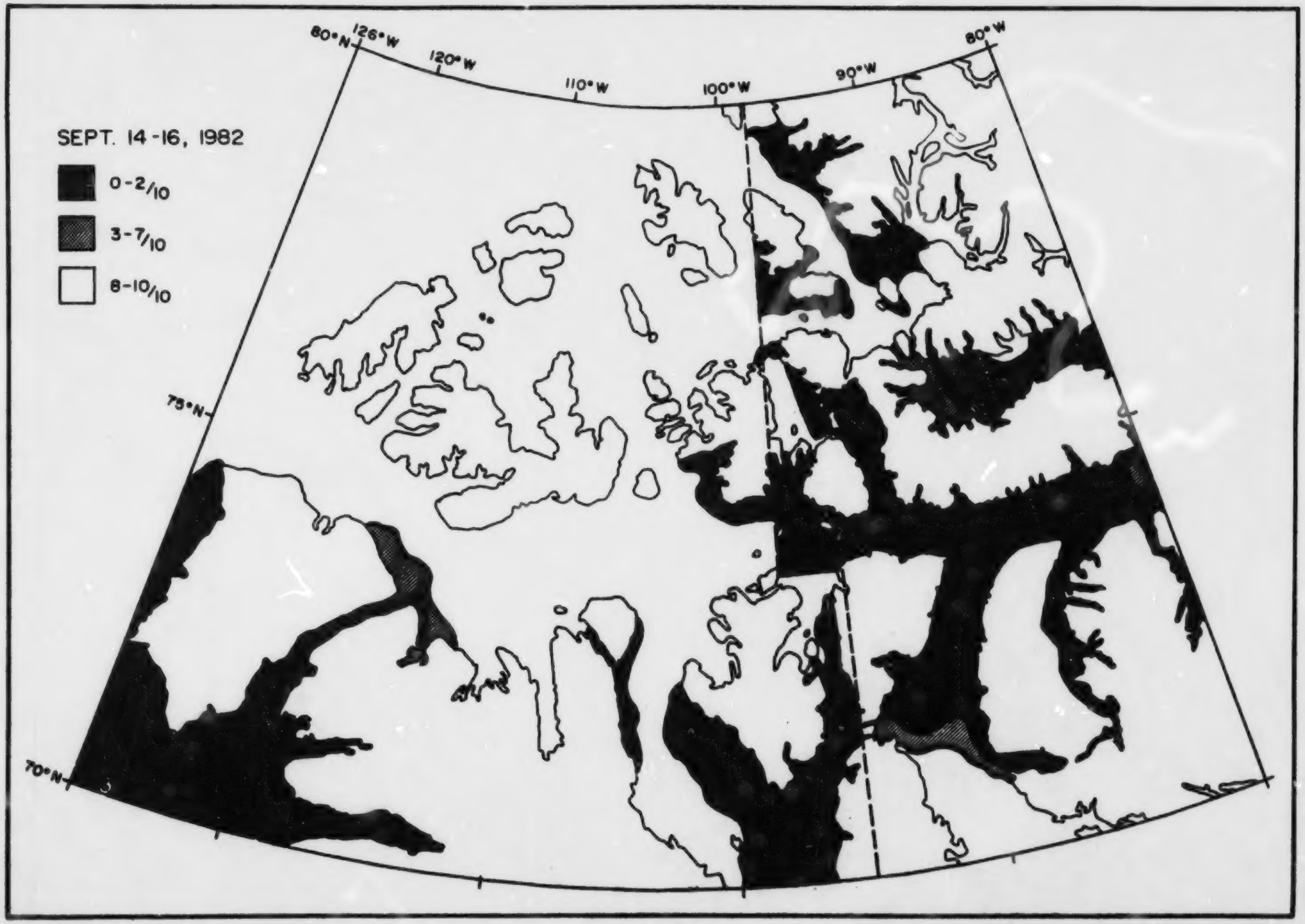

SEPT. 14-16, 1982
0-2/10
3-7/10
8-10/10
80°N
126°W
120°W
110°W
100°W
90°W
80°W
75°N
70°N

Figure 6: Sea ice conditions on September 14-16, 1982, as reproduced from the weekly Ice Central (Atmospheric Environment Service) charts for the Arctic. The dashed line indicates the boundary between individual charts prepared for the Eastern and Western Arctic, separated by two days.

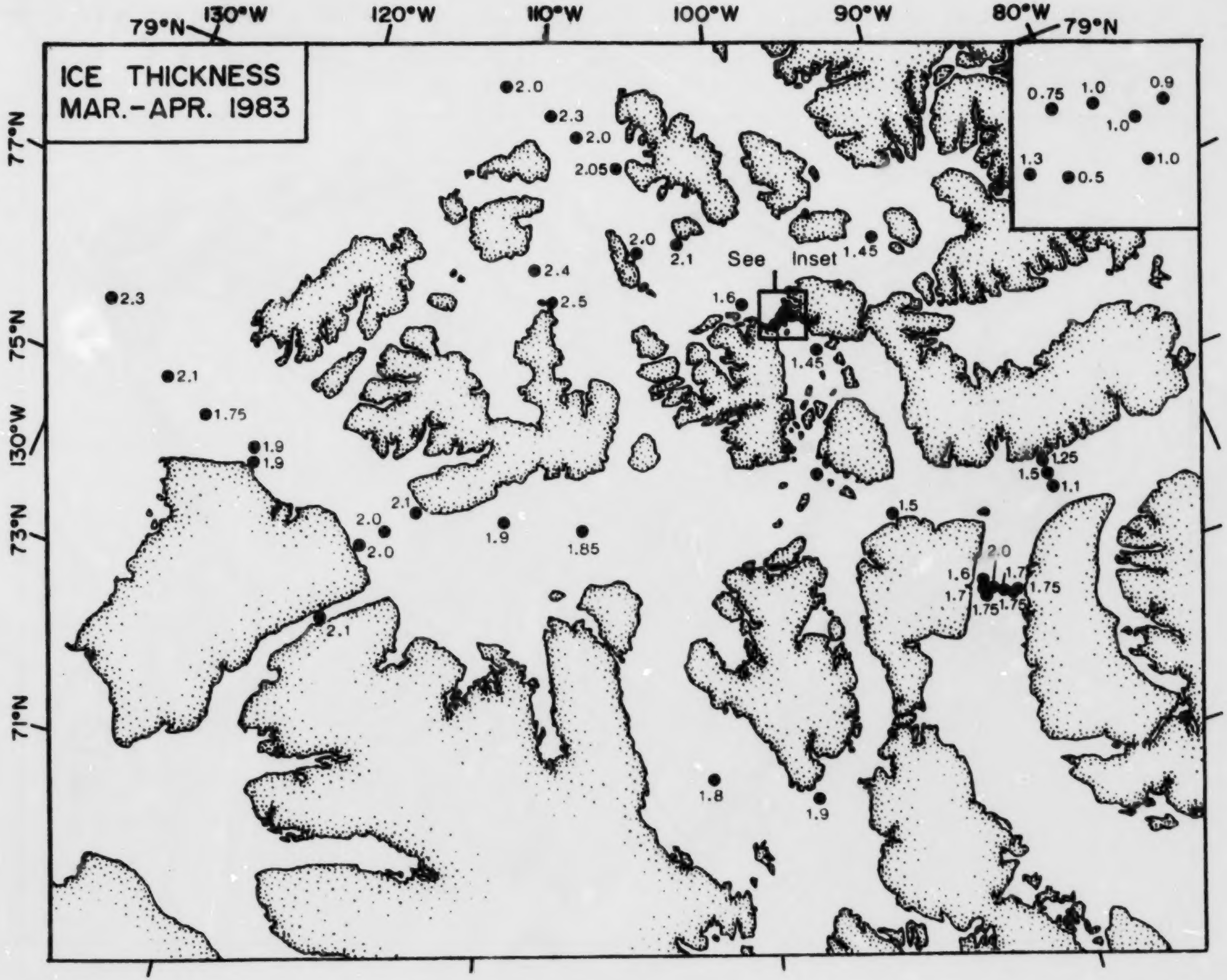

ICE THICKNESS
MAR.-APR. 1983
79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
2.0
2.3
2.0
2.05
2.0
2.1
2.4
2.5
2.3
2.1
1.75
1.9
1.9
2.1
2.0
2.0
1.9
1.85
2.1
See Inset
1.45
1.6
1.45
1.25
1.5
1.1
1.5
2.0
1.6
1.7
1.7
1.75
1.75
1.75
1.8
1.9
0.75
1.0
0.9
1.0
1.3
0.5
1.0

Figure 7: A summary of ice thickness measurements (metres) collected during the field work from March 20 to April 4, 1983.

The thickest ice was found in the northern and western parts of the study area, in the Queen Elizabeth Islands and in M'Clure Strait, where ice thicknesses averaged 2.0 m or greater. In the Queen Elizabeth Islands (line B and the inner part of line P) the ice consisted mostly of large, rough second and multi-year floes unsuitable for landing. Frozen leads suitable for landing were scarce, with the result that only two stations could be occupied in line B across Maclean Strait, and only two in line D, which had to be reoriented across Hazen Strait.

The outer ends of the continental shelf sections (lines E and P) consisted of a mixture of multi-year floes and very broken first-year ice interspersed with thinly-covered leads. Further in on the shelf, the leads were not as badly broken and more landing sites were available. In the eastern part of M'Clure Strait, in Viscount Melville Sound, Barrow Strait and Prince Regent Inlet, the ice cover consisted mainly of relatively smooth first-year floes, among which no difficulty was experienced in finding landing areas.

The thinnest ice was found in Penny Strait (line A), where measured thicknesses ranged from 0.5 to 1.3 m. The ice consisted of a mixture of first-year floes and thinly-frozen leads. Most of the stations had to be moved from their planned locations, with the result that although all the stations in the section were occupied, they did not lie in a straight line. As Penny Strait is the site of intermittent polynya formation, the presence of thin ice there is not surprising.

The landfast ice edge in Lancaster Sound was located east of Croker Bay, however the ice between the Brodeur Peninsula and the edge was not well consolidated, consisting of broken, ridged first-year floes and thinly-frozen leads. Stations could be occupied only on the northern half of line N, as the southern part of the Sound was too badly broken to find landing sites. Sites were found on leads and first-year floes on the northern half of the sound. Ice thicknesses were less than 1.5 m at all three stations.

3. DATA COLLECTION AND PROCESSING METHODS

3.1 DATA COLLECTION

All data collection was carried out from a DHC-6 de Havilland Twin Otter aircraft, CF-DHB, chartered from Kenn Borek Air Ltd. A total of 53 CTD profiles were obtained at 43 locations shown in Figure 8 to Figure 15, from March 20 to April 4, 1983. Several of the stations had to be relocated from their originally planned positions due to the absence of suitable ice conditions for aircraft landings, as discussed in Section 2.2.

In addition to the CTD data, inorganic micronutrient samples were obtained at two stations on each daily transect. The samples were collected at four depths corresponding to the mixed layer and salinities of 32.75, 33.50 and 34.75. At stations where salinities did not reach 34.75, an intermediate value was chosen. Twice on each daily transect, a salinity sample was collected to check the CTD-derived salinity, and daily measurements with in situ thermistors were made to check the CTD temperature. For every CTD cast, the pressure sensor output was checked against a known length of line out at shallow depths (14.7 m).

Station positions were determined using the GNS-500 VLF/Omega navigation system on the aircraft. Readings of indicated positions at known locations suggested that the positional accuracy was approximately 2 km or better.

The scientific equipment was distributed throughout the aircraft with the CTD winch and a gasoline-powered generator located at the rear opposite the main port-side entry door. The CTD control unit and computer were located forward behind the cockpit. When on station, the arms of the winch were moved forward to protrude through the door opening and the block attached. The CTD probe was then lowered through a hole drilled through the ice immediately below the main doors.

CTD Instrument System

The data were collected using a Guildline Model 8706 digital CTD probe and Model 87102 control unit. The probe carried three sensors: a thermometer, a pressure transducer and a conductivity cell. It transmits data to the surface control unit in digital form along a single-conductor cable. The same cable is used to lower the instrument. The manufacturer's specifications for the sensors and their associated electronics are shown in Table 1.

The instrument samples 25 times per second. The CTD was normally lowered at approximately 1.5 m/s which translates to a spatial sampling interval of about 6 cm.

In addition to the measurement sensors, the CTD probe was equipped with touchdown and bottle-trip reed switches. A lead weight suspended beneath the probe by 5 or 10 m was connected through a nylon line to the touchdown switch. When the lead weight reached the bottom, the touchdown switch would be activated providing a warning for the winch operator. A Knudsen reversing bottle, mounted above the CTD probe, was connected to the bottle-trip switch to indicate when the bottle had tripped during the descent of the probe in response to a dropped messenger. Both of the switch values were recorded on the digital data tape, along with the pressure, temperature and conductivity ratio data.

Table 1

Specifications for Guildline CTD

Function	**Range**	**Accuracy**	**Resolution**	**Stability**	**Response Time**
C*	100 ppm to 40	±0.005	±0.001	±0.002/6 mos.	<50 ms
T	-2°C to 30°C	±0.005°C	±0.0005°C	±0.005°C/6 mos. ±0.002°C/30 days	<50 ms
P	to 1500 dbar	±0.15%F.S.	±0.01%F.S.		<50 ms

*Specifications for conductivity are given as equivalent salinities.

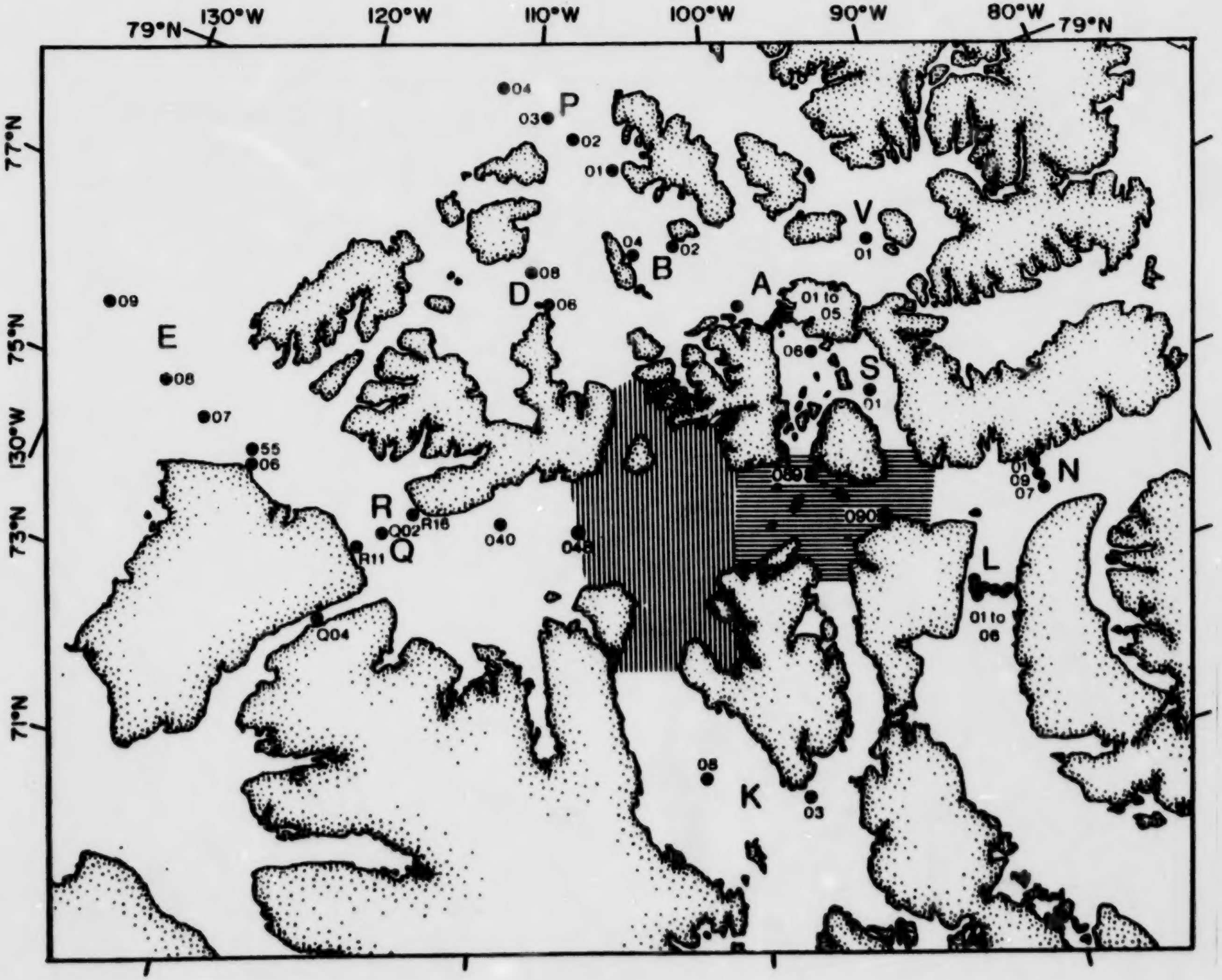
A Hewlett-Packard 9825 computer was used to monitor the CTD data as the probe was lowered. The computer calculated the fall speed as the probe descended so that the fall rate could be kept near 1.5 m/s, in order that the response characteristics of the conductivity and temperature transducers would be matched (Perkin and Lewis, 1982). In addition, the time at which to release the bottle messenger was indicated for a specified bottle depth. The computer also provided a real-time display and vertical profile plot of the temperature and salinity to monitor the quality of the data.

CTD Station Procedures

Once the aircraft had landed, the gasoline-powered generator was started. A nine-inch hole was drilled using an ice auger turned by a one-inch shaft electric drill. After all snow and ice fragments had been cleared from the hole, the ice thickness was measured and a depth sounding taken. The CTD probe was lowered to a depth of 15 m as determined by a previously measured mark on the winch cable. Power was then applied to the probe and the output was monitored through the computer. Successive readings were noted until the instrument stabilized, usually requiring about ten minutes. The probe was then raised to within 4 to 5 m of the surface and the tape recorder was started. The probe was then lowered at a speed of 1.5 m/s until within 30 m of the bottom. At this point, the descent rate of the probe was slowed to about 1.0 m/s, and then stopped when the touchdown switch was activated. The tape recorder was stopped and then the probe was pulled back to the surface. Once the probe was secured within the plane, the conductivity cell was filled with a isopropyl alcohol solution to prevent seawater from freezing within the cell. Isopropyl alcohol was also applied to the temperature sensor coil to keep ice from forming on its surface.

If a salinity sample was required at the station, it was obtained with the Knudsen reversing bottle mounted immediately above the CTD probe. The bottle was tripped by mechanical messenger as the probe descended to provide a simultaneous salinity value for calibration of the CTD probe. From each Knudsen bottle, two samples were drawn into 150 ml glass bottles.

Figure 8: Locations of oceanographic stations occupied between March 20 and April 4, 1983 in the Canadian Arctic Archipelago. The shaded regions indicate the locations of concurrent physical oceanographic studies carried out by the Frozen Sea Research Group (Institute of Ocean Sciences) in eastern Viscount Melville Sound (vertical hatching) and by the Bayfield Marine Laboratory in Barrow Strait (horizontal hatching).


79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
04
P
03
02
01
V
01
04
02
B
08
D
06
A
01 to
05
06
S
01
09
E
08
07
55
06
R
Q02
R16
040
048
R11
Q
Q04
080
090
01
09
07
N
L
01 to
06
08
K
03

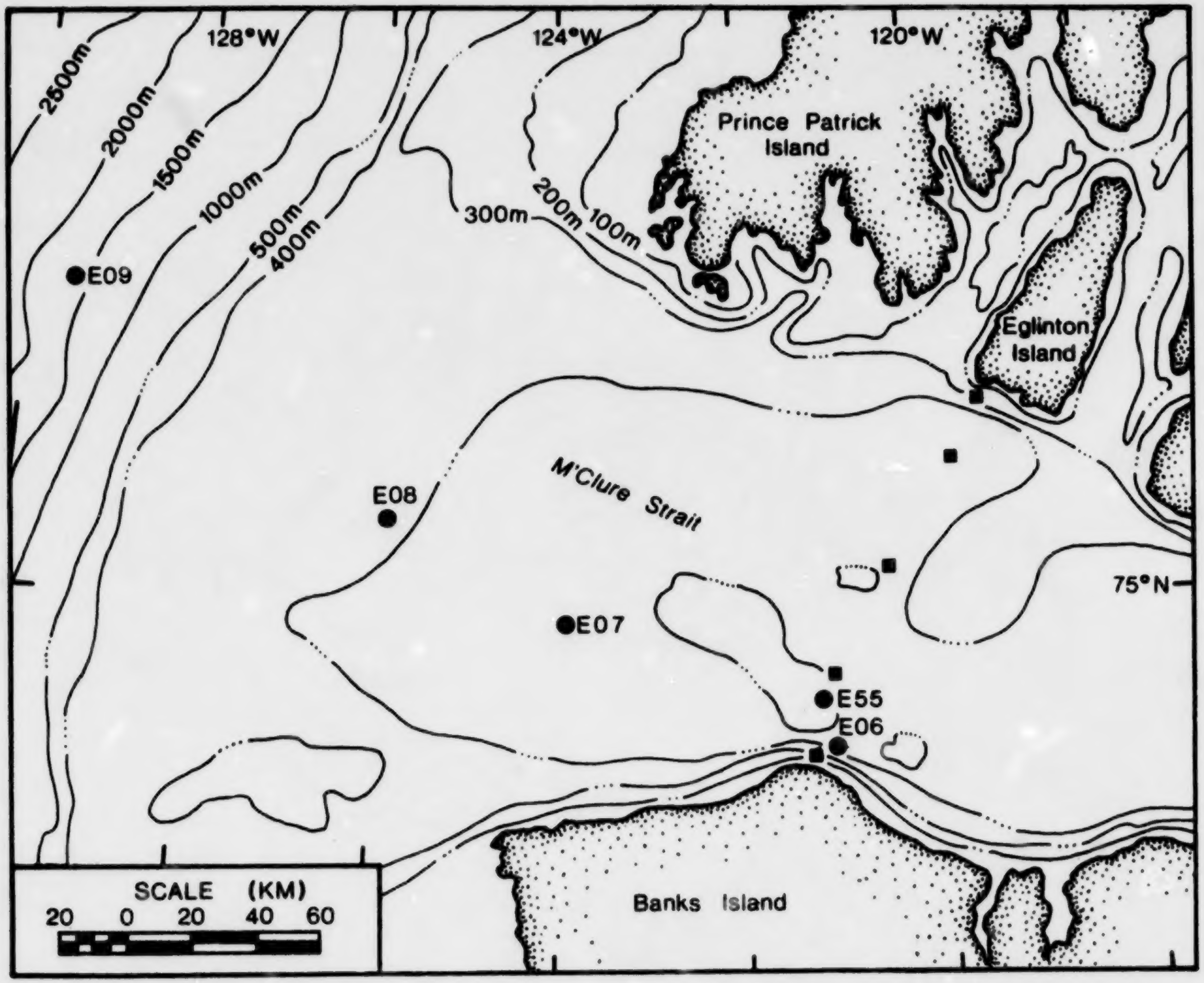

128°W
124°W
120°W
75°N
2500m
2000m
1500m
1000m
500m
400m
300m
200m
100m
Prince Patrick Island
Eglinton Island
M'Clure Strait
Banks Island
E09
E08
E07
E55
E06
SCALE (KM)
20 0 20 40 60

Figure 9: Locations of oceanographic stations, denoted by solid circles, occupied in western M'Clure Strait and the adjoining continental shelf and slope on March 26-27, 1983. The square symbols mark the locations of stations occupied in March 1982.

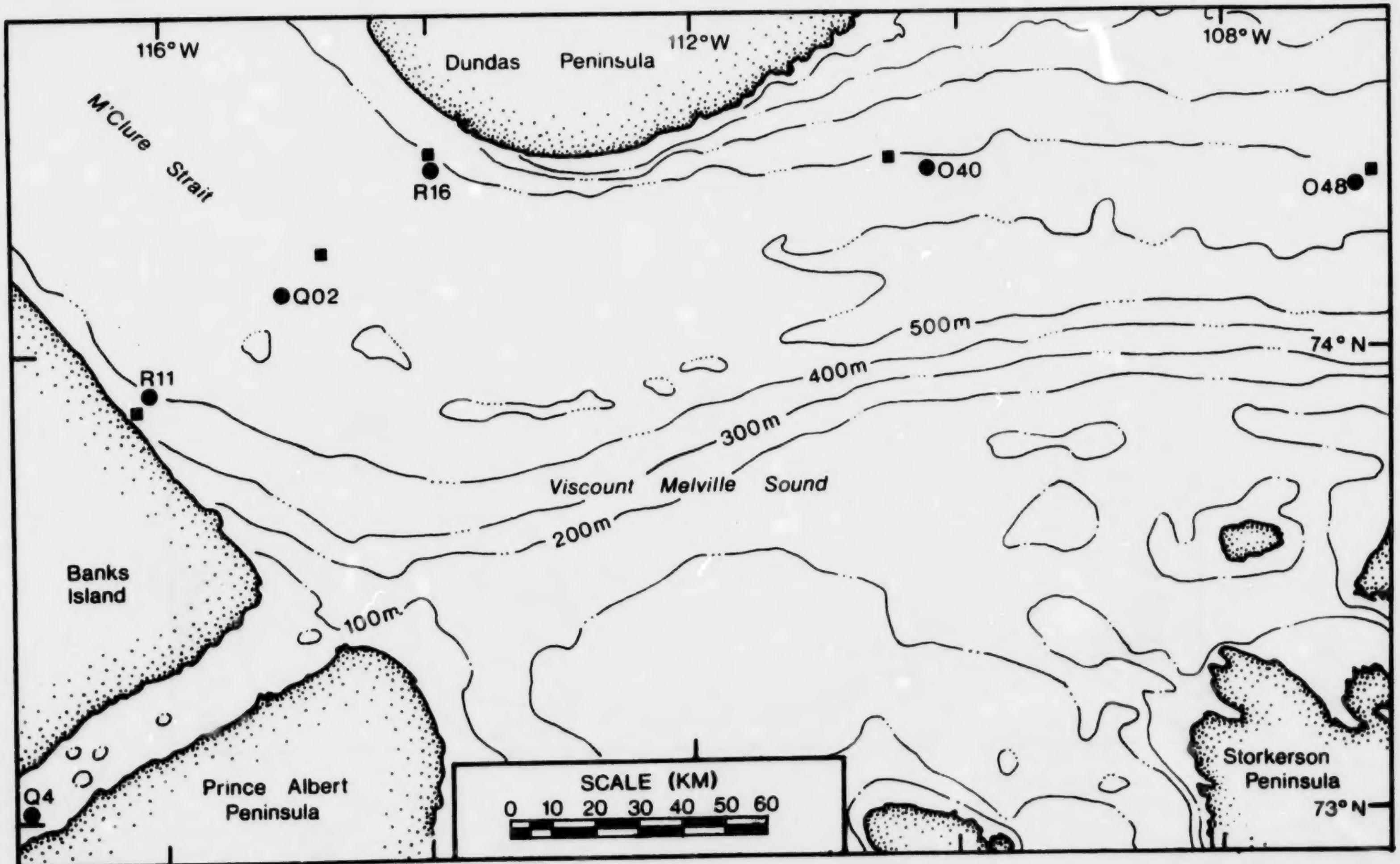

116° W
112°W
108° W
74° N
73° N
M'Clure Strait
Dundas Peninsula
R16
O40
O48
Q02
R11
500m
400m
300m
200m
100m
Viscount Melville Sound
Banks Island
Prince Albert Peninsula
Storkerson Peninsula
Q4
SCALE (KM)
0 10 20 30 40 50 60

Figure 10: Locations of oceanographic stations, denoted by solid circles, occupied in eastern M'Clure Strait, Viscount Melville Sound and Prince of Wales Strait, March 23 and March 25, 1983. The square symbols mark the locations of stations occupied in March, 1982.

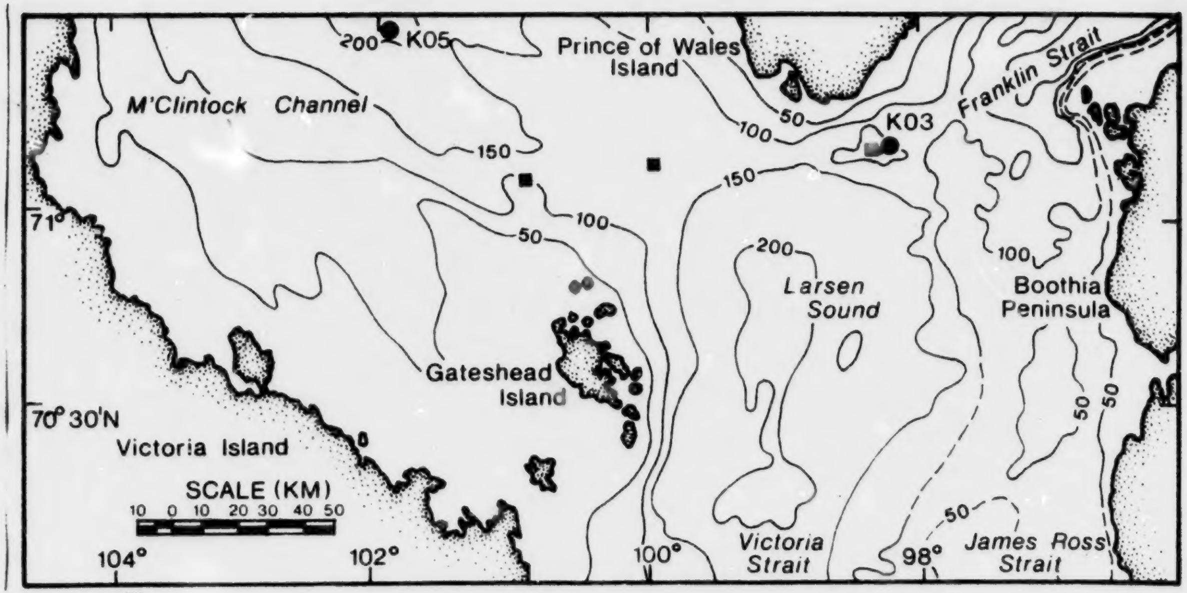

200
K05
Prince of Wales Island
M'Clintock Channel
150
50
100
K03
Franklin Strait
150
71°
100
50
200
Larsen Sound
100
Boothia Peninsula
Gateshead Island
70°30'N
Victoria Island
50
50
SCALE (KM)
10 0 10 20 30 40 50
50
104°
102°
100°
Victoria Strait
98°
James Ross Strait

Figure 11: Locations of oceanographic stations, denoted by solid circles, occupied in southern M'Clintock Channel and Larsen Sound, March 22-23, 1983. The square symbols mark the locations of stations occupied in April, 1982.

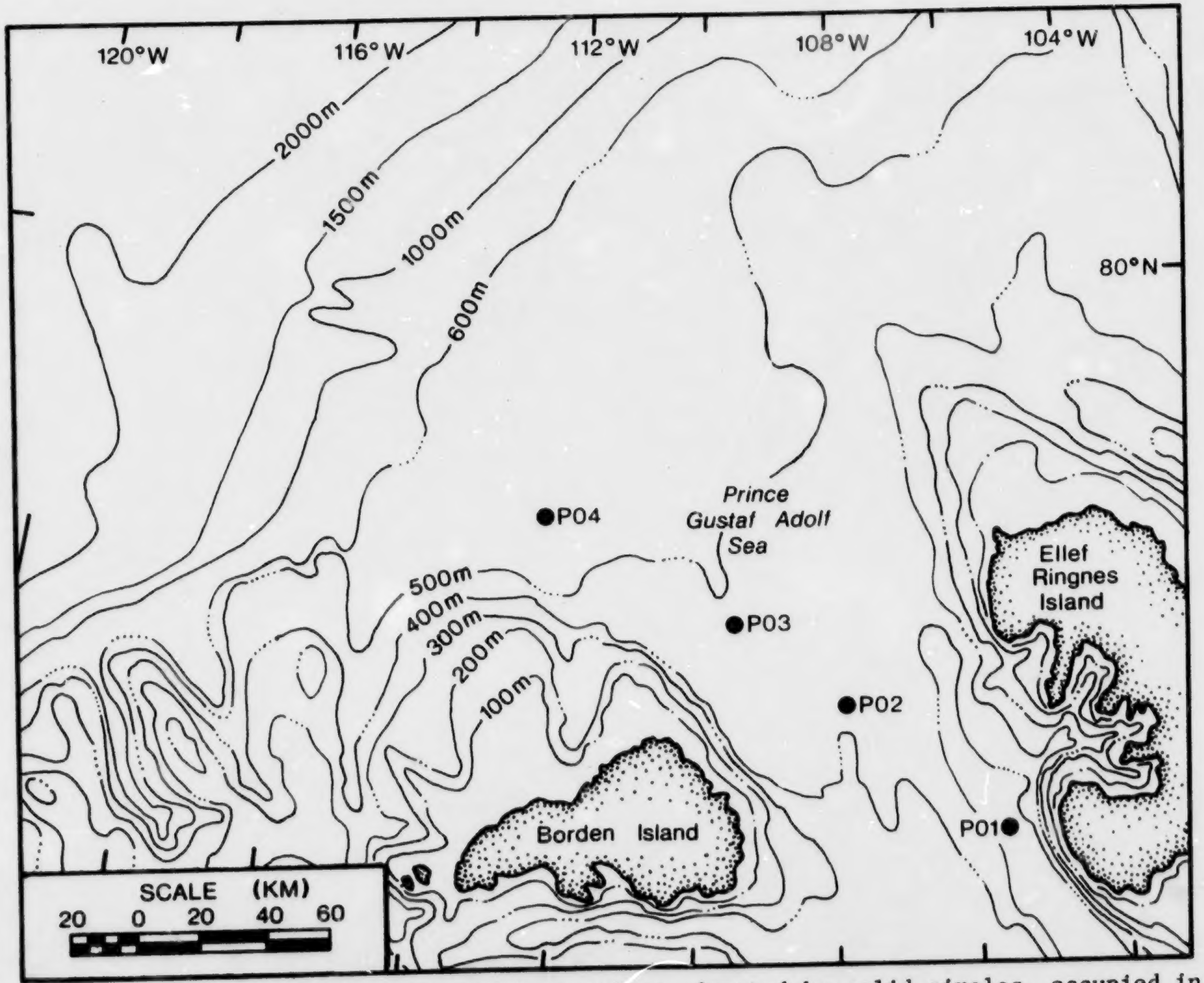

120°W
116°W
112°W
108°W
104°W
80°N
2000m
1500m
1000m
600m
500m
400m
300m
200m
100m
P04
P03
P02
P01
Prince Gustaf Adolf Sea
Ellef Ringnes Island
Borden Island
SCALE (KM)
20
0
20
40
60

Figure 12: Locations of oceanographic stations, denoted by solid circles, occupied in Prince Gustaf Adolf Sea, March 27, 1983.

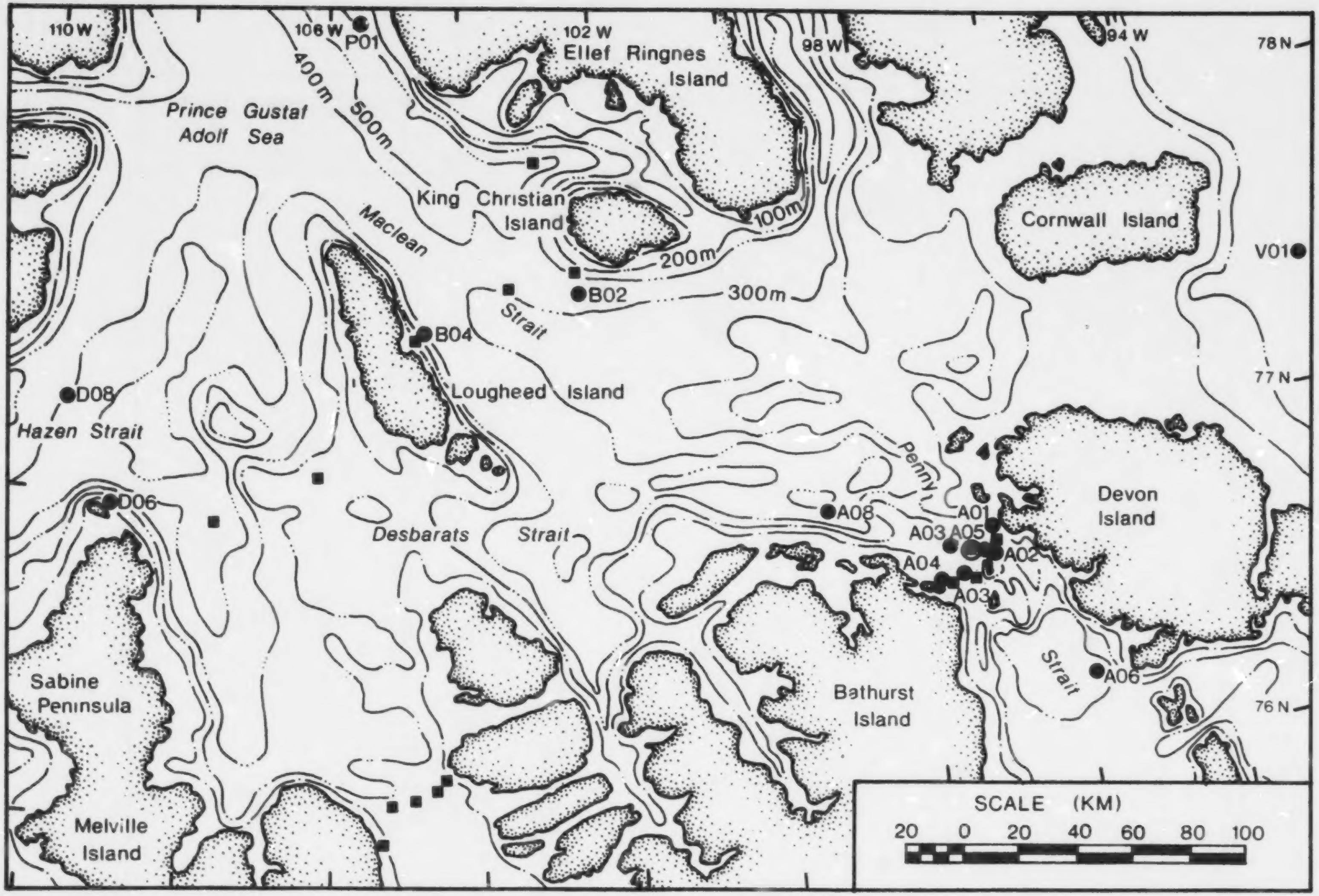

110 W
106 W
102 W
98 W
94 W
78 N
77 N
76 N
P01
Ellef Ringnes Island
Prince Gustaf Adolf Sea
400m
500m
King Christian Island
Maclean Strait
100m
200m
300m
B02
B04
Cornwall Island
V01
D08
Hazen Strait
Lougheed Island
Penny Strait
Devon Island
D06
A08
A01
A03
A05
A02
A04
A03
Desbarats Strait
A06
Sabine Peninsula
Bathurst Island
Melville Island
SCALE (KM)
20
0
20
40
60
80
100

Figure 13: Locations of oceanographic stations, denoted by solid circles, occupied in the Sverdrup Basin (lines B and D) on March 24, 1983; in Penny Strait (line A) on March 29 and April 1-2, 1983; and in Norwegian Bay (station V01) on April 1, 1983. The square symbols mark the locations of stations occupied in March, 1982.

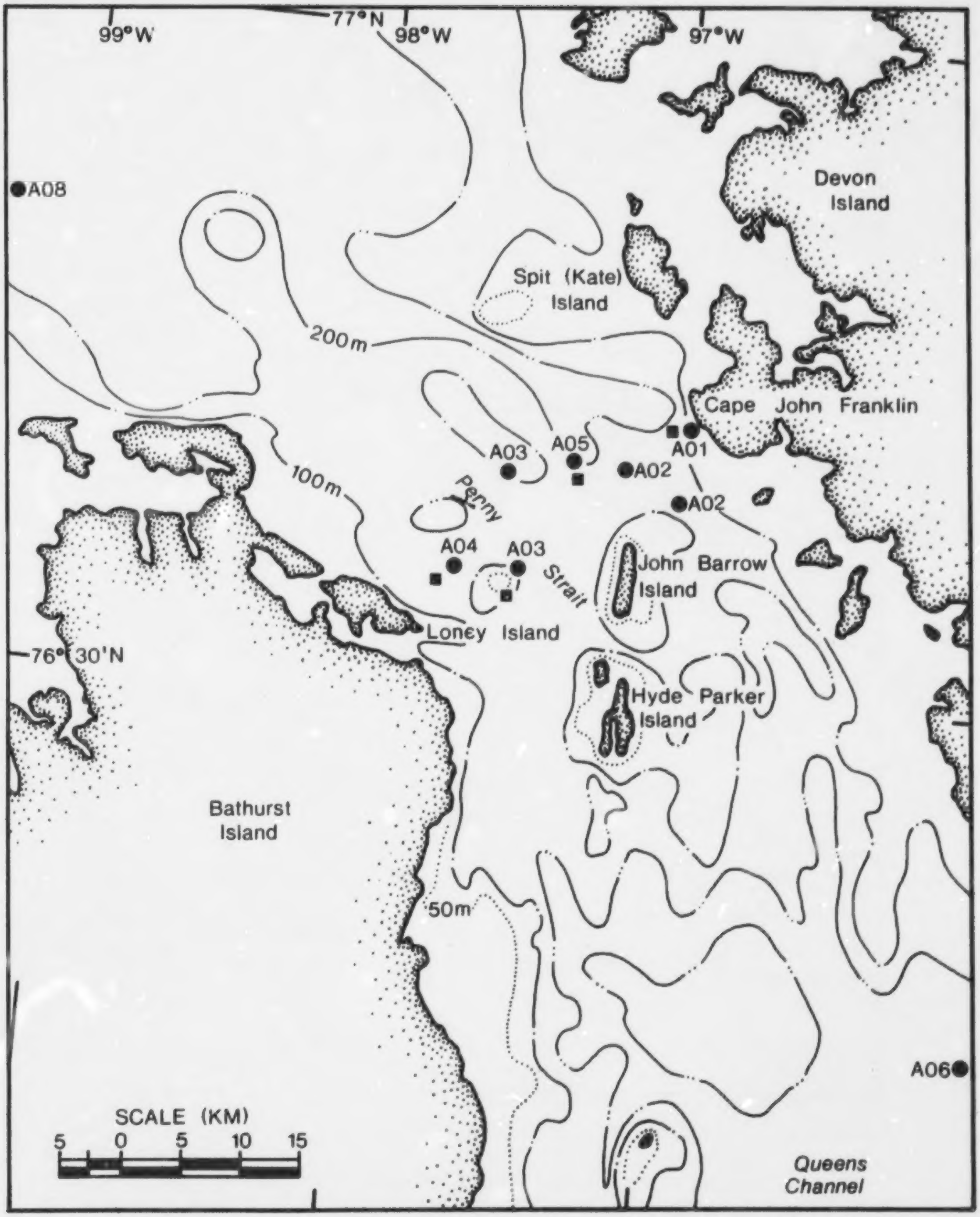

77°N
99°W
98°W
97°W
A08
Devon Island
Spit (Kate) Island
200m
Cape John Franklin
A01
A03
A05
A02
100m
Penny Strait
A02
A04
A03
John Barrow Island
Loney Island
76°30'N
Hyde Parker Island
Bathurst Island
50m
A06
SCALE (KM)
5 0 5 10 15
Queens Channel

Figure 14: Locations of oceanographic stations, denoted by solid circles, occupied in the vicinity of Penny Strait. Stations A01, A03, A04, A05, A08 and the southern A02 location were occupied on March 29, 1983, while on April 1-2, 1983 seven sequential casts were obtained at the northern A02 location and a single CTD cast was obtained at station A06. The square symboles mark the locations of stations occupied in March, 1982.

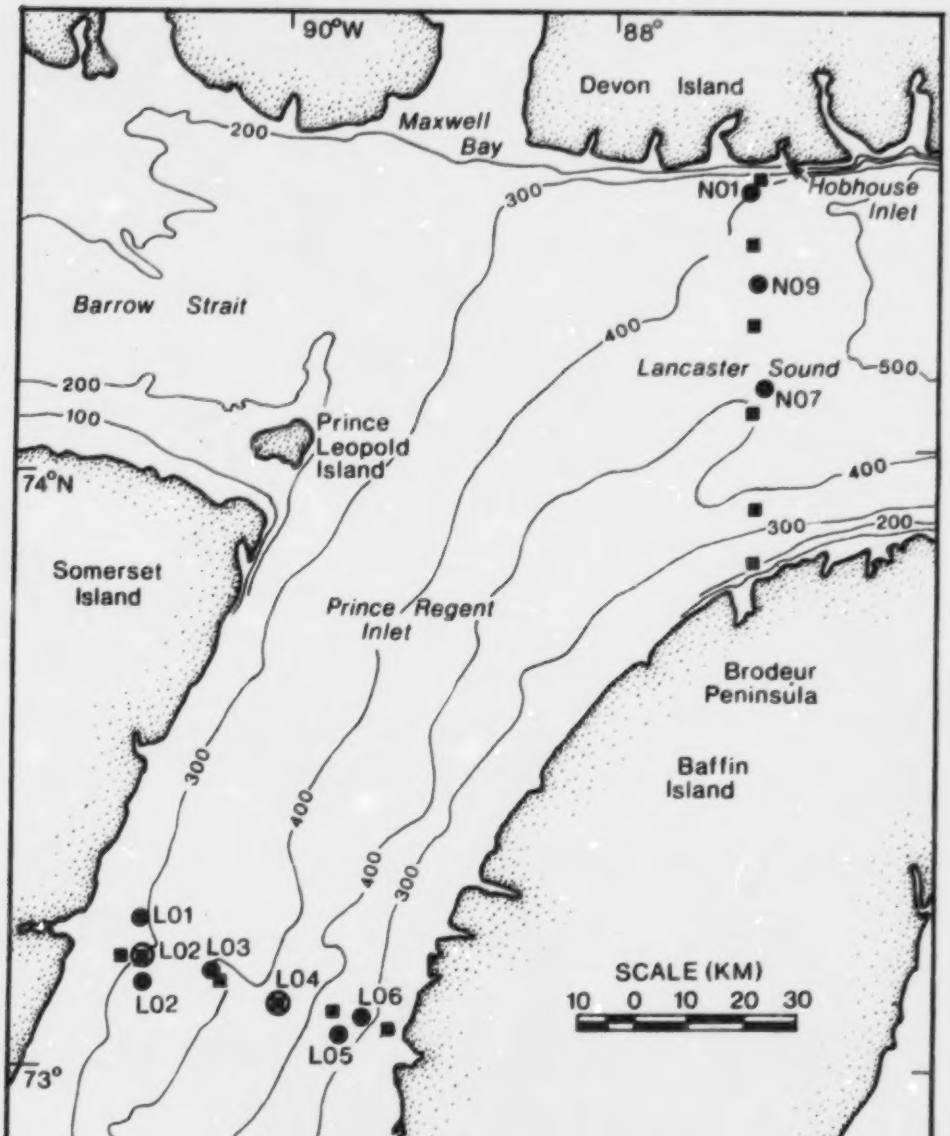

90°W
88°
Devon Island
Maxwell Bay
200
300
Hobhouse Inlet
N01
N09
Barrow Strait
400
Lancaster Sound
500
N07
200
100
Prince Leopold Island
74°N
400
300
200
Somerset Island
Prince Regent Inlet
Brodeur Peninsula
Baffin Island
300
400
400
300
L01
L02
L03
L04
L02
L06
L05
SCALE (KM)
10 0 10 20 30
73°

Figure 15: Locations of oceanographic stations, denoted by solid circles occupied in Lancaster Sound (March 28, 1983(and in Prince Regent Inlet (southern L02 and L05 on March 28, 1983; other locations on March 30, 1983). The square symbols mark the locations of stations occupied in March-April, 1982.

Every effort was made to prevent the salinity samples from freezing. Once the samples were drawn, they were stored in an insulated box and kept in heated surroundings. However, on cold (-35 to -40°C), windy days, some freezing of the seawater did occur in the nozzle of the Knudsen bottle prior to drawing of the samples.

Temperature calibration data were obtained by attaching a pair of bead thermistors adjacent to the temperature sensor of the probe. The probe with attached thermistors was lowered as far as the thermistor cables permitted, about 6.5 m below the surface. The thermistors were connected to an electrical bridge circuit, which was used to determine the temperature from each thermistor by reference to the precision thermistors. This procedure was carried out prior to the CTD profile.

Inorganic Nutrient Sampling

At stations where nutrient samples were collected, the Knudsen bottle was set and then lowered to the depth corresponding to the desired salinity, as chosen from the CTD profile. A display program on the HP9825 was used to monitor the depth. Data were recorded on tape over the 20 m immediately before the depth was reached. The bottle was tripped and returned to the surface. At each sampling depth, six samples were collected: three were drawn into glass tubes and three into plastic tubes. Each tube, having a volume of 20 ml, was rinsed three times prior to drawing the sample. The samples were allowed to freeze immediately and thereafter were stored in a cooler in the aft baggage compartment of the aircraft.

Following the field work, the samples were analyzed on a Technicon II auto-analyzer by Seakem Oceanography Ltd., Victoria, B.C.

3.2 CALIBRATION

Calibration curves for the temperature and conductivity ratio sensors were measured in the laboratory prior to the experiment by the Frozen Sea Research Group. Field calibration checks were made for all three sensors at least daily. The pressure sensor was calibrated against a known length of line out on each cast at shallow depths (14.7 m), and on three occasions at greater depths (49.7 m; 49.7 m and 99.7m; 49.7 m and 99.7 m) as well, under apparently calm water conditions. The temperature sensor was calibrated daily against two thermistors at approximately 6.5 m depth. Duplicate water samples for conductivity ratio calibration were collected once or twice daily from a sampling bottle mounted above the CTD probe. The water samples were later analyzed on a bench salinometer.

The pressure calibration data are shown in Table 2 (deep values) and Table 3 (daily averages of the shallow values). Depths from measured line out were converted to pressures by integrating the water densities at standard depths provided by the field data logging system from the surface down to the calibration depth. Daily averages of the shallow pressure values were computed to compensate for the effects of atmospheric pressure variations.

Table 2

Comparison of measured pressure and pressures computed from length of line out (deeper casts).

Profile	Date	P Computed from Wire Out (dbar)	P Measured by CTD (dbar)	ΔP (Computed −CTP, dbar)
4807	March 23	50.40	49.20	1.20
4807	March 23	100.82	99.45	1.37
4821	March 27	100.78	99.15	1.63
4825	March 28	50.41	49.20	1.21
4825	March 28	100.82	99.60	1.22

The variation in the pressure error with pressure (Table 2) was opposite in sign to that found when the sensor was last calibrated in the laboratory (July, 1981). The laboratory calibration was therefore not used, and the data of Tables 2 and 3 were used to construct the following corrections for the pressure (at the position of the pressure sensor)

$$P_{cal} = B + 1.00532\ P_{CTP} \qquad 0 \leq P_{CTP} \leq 100\ \text{dbar}$$

$$P_{cal} = 0.532 + B + P_{CTP} \qquad P_{CTP} > 100\ \text{dbar}$$

where B is the daily average offset from Table 3.

Table 3

Mean daily shallow-depth pressure errors.

Date	No. of Casts	ΔP (Computed−CTP, dbar)
March 20	1	0.84
March 22	1	0.77
March 23	2	0.90 ± 0.06
March 24	4	0.97 ± 0.03
March 25	4	0.94 ± 0.05
March 26	5	0.85 ± 0.11
March 27	4	0.96 ± 0.11
March 28	5	0.95 ± 0.03
March 29	4	0.91 ± 0.11
March 30	5	0.90 ± 0.09
April 1	9	1.00 ± 0.09
April 4	1	1.03

Table 4, containing the temperature calibration data, shows the difference between the thermistor and CTP temperature and the thermistor temperature versus time. The asterisks mark days on which only one thermistor was functioning.

The laboratory calibration was used to define the temperature dependence of the calibration relation, while the data of Table 4 were used to define a temperature-independent offset. The data of Table 4 were fitted with a straight-line time variation which had a standard deviation between the measured and fitted values of ΔT of 0.0023°C. The resulting calibration equation for temperature was

$$T_{cal} = 0.9938\ T_{CTP} + 0.0333°C - 2.93 \times 10^{-4} N°C$$

where N is the Julian day number.

Table 4

Temperature calibration data.

Date	**Thermistor Temperature (°C)**	**ΔT (Thermistor-CTP, °C)**
March 20	-1.6781	0.0149
March 21	-1.7815	0.0093
	-1.7865	0.0096
March 22	-1.6536	0.0112
March 23	-1.7106	0.0082
March 24*	-1.7530	0.0066
March 25*	-1.7655	0.0041
	-1.7648	0.0030
	-1.7609	0.0091
March 26*	-1.7523	0.0076
March 27*	-1.7295	0.0061
March 28*	-1.7768	0.0089
March 29*	-1.7684	0.0104
March 30	-1.7764	0.0077
April 1	-1.7290	0.0066
April 4	-1.7624	0.0063
	-1.7617	0.0074

The pressure and temperature values corrected as above were combined with the salinity values from the water samples (only samples for which analysis of replicates agreed to within 0.01 were used) to define, via the Practical Salinity Scale 1978, a conductivity ratio for comparison with the ratio measured by the CTP (taken as the average of ten scans before and after the scan corresponding to the point at which the bottle was tripped). The CTP conductivity ratio was corrected for cell-size changes due to pressure and temperature effects. The comparison data are summarized in Table 5 below.

Table 5

Calibration data for conductivity ratio.

Date	Profile No.	C (Water Samples)	C (CTD)	C_{WS}/C_{CTP}
March 20	4800	0.61399	0.61283	1.00189
March 21	4801	0.61361	0.61194	1.00273
March 23	4807	0.67304	0.67154	1.00223
March 24	4808	0.68167	0.67991	1.00259
March 24	4811	0.68063	0.67870	1.00284
March 25	4812	0.68194	0.68015	1.00263
March 25	4815	0.60830	0.60680	1.00247
March 26	4817	0.68384	0.68216	1.00246
March 26	4819	0.68121	0.67941	1.00265
March 27	4821	0.68398	0.68246	1.00223
March 27	4824	0.68312	0.68173	1.00204
March 28	4825	0.64150	0.64039	1.00176
March 28	4827	0.67114	0.66961	1.00231
March 29	4830	0.67822	0.67675	1.00217
March 29	4835	0.63572	0.63421	1.00238
March 30	4837	0.63303	0.63176	1.00201
March 30	4841	0.65127	0.65002	1.00192
April 1	4842	0.68178	0.68028	1.00220
April 1	4846	0.62464	0.62331	1.00213

The conductivity ratio measured by the probe would normally be corrected by applying a factor equal to the mean of the ratios C_{WS}/C_{CTP}. However, the probe struck bottom on profile 4819 (March 26) and there is a statistically significant (at the 95% confidence level) difference between the mean of the first 9 values (up to and including cast 4819) and the last 10. It is very likely that a change in conductivity ratio calibration could be caused by the bottom impact, and therefore two different calibration factors were applied to the conductivity ratio as follows:

$$C_{cal} = 1.00248\ C_{CTP} \quad \text{(casts 4800-4819)}$$

$$C_{cal} = 1.00210\ C_{CTP} \quad \text{(casts 4820-4852)}$$

After application of the above calibration constants, the RMS difference in the salinity computed from CTP data, and that measured from the water samples was 0.008. The maximum difference was -0.0214, with the remaining differences being less than 0.0140. The variance associated with differences between duplicate salinity samples is about 0.0025^2, so that 90% of the error variance must be associated with instability in the CTD.

Intercomparisons with the CTD instruments being used by the Frozen Sea Research Group (FSRG) and the Bayfield Laboratory for Marine Science and Surveys (BLMSS) were carried out at two sites in Barrow Strait on March 21 and April 4. Near-simultaneous casts were taken at sites separated by 200 m or less in each case. Intercomparison data from the probe (#4) used to make the measurements contained in this report appears in Appendix 1 as casts 4800 (March 21 test) and 4852 (April 4 test). Probe 5 was used by the Frozen Sea Research Group; intercomparison data from that probe is recorded as casts 4700 (March 21) and 4900 (April 4) at FSRG (R. Lake, pers. comm.). Intercomparison data from the BLMSS probe appears as casts 83075-1 (March 21) and 83046-10 (April 4) in Prinsenberg and Sosnoski (1983).

Independent temperature calibration data of the form described above were available for both probes 4 and 5 for measurements taken between March 21 and April 4. Salinity calibration values from water samples were available only for probe 4 during that period, although samples were available for probe 5 from a set of measurements taken after April 4. Laboratory calibration values for pressure, temperature and salinity, measured before the start of field operations, were available for all three instruments.

Temperature data from probes 4 and 5 agreed to within 0.002°C on both March 21 and April 4 when both instruments had been corrected with in situ thermistor measurements. Unlike the March 21 intercomparison, when the two probes were lowered simultaneously, the April 4 casts by probes 4 and 5 were separated by 45 minutes, and significant changes had taken place in the structure of the water column. Temperature comparisons on April 4 were therefore restricted to the lower 30 m of the profiles, where the least amount of change appeared to have taken place. Deep-water salinities from probe 5 were 0.005 below those from probe 4 when probe 4 was calibrated as described above, and probe 5 was calibrated using a cell constant (0.998564) derived from water samples taken after April 4. Comparison of salinity values on March 21, using calibrated measurements from probe 4 and the April 4 cell constant for probe 5 showed the probe 5 to be consistently lower than probe 4 by approximately 0.021. As the salinity calibration for probe 4 had been derived from a series of independent salinity samples, it was decided to correct probe 5 to agree as closely as possible with probe 4 throughout the period March 21-April 4. A cell constant of 0.99934 for probe 5 was required to force agreement in salinity March 21; an average value of 1/2 (0.99934 + 0.998564) = 0.99895 was therefore applied to all probe 5 data taken between March 21 and April 4. As a result, salinity differences between the two probes ranged from -0.011 (March 21) to +0.002 (April 4), which is somewhat greater than the RMS error in the calibration for probe 4. Data from FSRG 1983 included in this report were obtained from preliminary results and were calibrated using a cell constant of 0.99905. Salinity values derived from these data are therefore 0.0035 higher than those in the final set.

Comparison of the BLMSS data (83075-1) with data from probe 4 on March 21 showed the BLMSS temperature to be approximately 0.01°C higher and the BLMSS salinities to be approximately 0.025 higher than the probe 4 values. Comparison of deep-water T-S characteristics from BLMSS cast 83046-10 and probe 4 cast 4852 shows differences in temperature and salinity less than 0.01°C and 0.01, respectively. Since the BLMSS data used in this report were collected after April 4, they have been used without alteration.

Three casts using a third FSRG probe, #6, were also made in conjunction with measurements at station K05 (casts 4803 (probe 6) and 4804) and the April

4 intercalibration (casts 4901 and 4902) and are listed in Appendix 1. Laboratory calibration constants were applied to the probe 6 data as follows:

$$P_{cal} = P_{CTP} -11.02$$

$$T_{cal} = T_{CTP} +0.00318$$

$$C_{cal} = 0.9955\ C_{CTP}$$

As no other data were collected with probe 6, no attempt has been made to derive improved constants for it.

3.3 DATA PROCESSING

In processing the CTD data, as part of applying the calibration corrections described in Section 3.2, other corrections were applied to the data. The CTD probe temperature and conductivity sensors have different response characteristics to variations within the water column. To compensate for these changes, which vary with the fall speed of the probe, an algorithm was applied to the raw temperature and conductivity ratio data (Perkin and Lewis, 1982). For this purpose, the fall speed was computed as a moving average, over 32 successive scans (approximately 1.3 seconds). Those data acquired at fall speeds of 0.3 m/s or less were discarded. In addition, a correction was applied to the conductivity ratio to compensate for changes in the dimensions of the conductivity cell caused by the varying pressure and temperature during the profiling (Bennett, 1976).

Salinity was computed using the Practical Salinity Scale 1978 (Lewis, 1981) and, in accordance with the convention of the new scale, salinity values are presented as dimensionless numbers. It should be noted that the Practical Salinity values are approximately 1000 times the values of the salinity of the same samples of seawater obtained on the previous scales. For example, a sample of seawater having a salinity of 0.03512 (i.e. $35.12^{o}/oo$) will have a practical salinity of 35.12. (In this report, where comparisons have been made with historical data derived using previous salinity scales, the conversion values of Lewis and Perkin (1981) have been used to determine the magnitude of the changes under the Practical Scale 1978.)

The surface freezing point temperatures were computed according to the new UNESCO definition (Millero, 1978). Density is presented in the form of reduced density:

$$\sigma = (\text{density} -1) \times 10^3$$

based on UNESCO Equation of State of Seawater (Millero and Poisson, 1981). For this report, the reduced densities, often referred to as sigma-t values, are computed for pressures of one standard atmosphere, not for in situ pressures. The units of reduced density are kg/m^3.

Other derived quantities used in this study are dynamic height anomaly and sound speed. The dynamic height anomaly was computed as the pressure integral of specific volume anomaly (Millero et al., 1980) from the surface (Pond and Pickard, 1978). The values are given in units of dynamic metres, where 1 dyn. m = $10\ m^2/s^2 = 10$ J/kg. Sound speed was calculated by means of the algorithm of Wilson (1960) with units of m/s.

A plot and listing of the CTD data are provided for each station in Appendix 1. The plots display vertical profiles of temperature, salinity and sigma-t. In addition, surface freezing point temperatures are plotted at standard oceanographic pressures (5, 7, 10, 15, 20, 30, 50, 75, 100, 125, 150, 200, 225, 250, 300, 400, 500 dbar). The CTD data are displayed in the plots to a resolution of 0.15 dbar.

3.4 ERROR DETECTION AND REMOVAL

Detection and removal of errors in the CTD data was conducted in two distinct phases. In the first phase, first differences between successive scans of the raw values of the pressure, temperature and conductivity ratio were computed and compared against allowable maximum absolute first differences values of 1.0 dbar (pressure), 0.02C° (temperature) and 0.01 (conductivity ratio). Those data scans which had first differences exceeding these levels were judged to be erroneous. In all cases, erroneous data were replaced with the linearly interpolated value. The number of errors identified by means of this procedure was small (Appendix 4) never exceeding 0.3% for any one channel.

A second phase of error removal was carried out following application of the calibration values, conductivity cell and fall speed corrections, and computation of salinities. The first differences of salinity were computed for each CTD profile, and any scans having an absolute first difference value from the previous reading exceeding 0.01 were listed along with the values of the previous 10 and the following 10 scans. In addition, vertical profile plots of temperature, conductivity ratio and salinity were generated having sufficiently large scales that each individual value could be resolved in the plots. Each salinity difference exceeding 0.01 was investigated.

The data in a scan were considered as erroneous "spikes" if the following criteria applied:

1) single point erroneous values - one first difference in salinity (with the preceding or following point) was greater than or equal to 0.010 in absolute value and the other was opposite in sign and greater than or equal to 0.008.

2) double point erroneous values - one first difference in salinity (with the preceding or following valid point) was greater than 0.015 in absolute value and the other was opposite in sign and greater than or equal to 0.010.

Furthermore, for the identified spikes to be considered erroneous, the values at the anomalous point had to be less than the preceding 5 values for an anomalously low salinity or greater than the following 5 values for an anomalously high salinity. Salinity spikes which satisfied the above criteria accounted for nearly all of the erroneous values identified in the second phase of error detection (Appendix 4). For such spikes the entire scan was deleted from the record.

Based on a visual examination of the detailed profile plots, other erroneous or suspect data points were noted. In a few cases, these values were deleted from the data record for various reasons as described in

Appendix 4. However, in most cases, we could not be certain that the features in question were erroneous; therefore, these segments of the data were noted in Appendix 4, but not removed from the data.

In 17 of the 53 CTD profiles, the conductivity ratio and salinity profiles contained high wavenumber variations. These small scale variations (Figure 16) occurring as changes of alternating sign between successive scans around the general overall profile, were generally of relatively small amplitude (less than 0.007 in salinity). Occasionally, these would occur with larger amplitude but only over small segments of the total profile (Appendix 4). More commonly, the amplitudes would decrease to very low levels (less than 0.003 in salinity) over large portions of the vertical profiles. In most but not all profiles, these oscillations exhibited an overall tendency to decrease in amplitude with increasing pressure. No attempt was made to remove these high wavenumber variations, unless the amplitudes significantly exceeded 0.010 in salinity. Only one such occurrence of these large amplitudes was detected (from 49.2 to 59.2 dbar in experiment number 4839) and this segment of the record was deleted.

The corrected CTD data, along with the derived quantities sigma-t, dynamic height anomaly and sound speed, are provided at the lowest acceptable pressure, then at 1 dbar intervals to 25 dbar, 2.5 dbar intervals to 50 dbar, 5 dbar to 200 dbar, 10 dbar to 400 dbar, 25 dbar to the greatest pressure value. Each listed value is computed as a linear interpolation between the two values at bracketing pressures, where adjacent pressures are separated by about 6 cm.

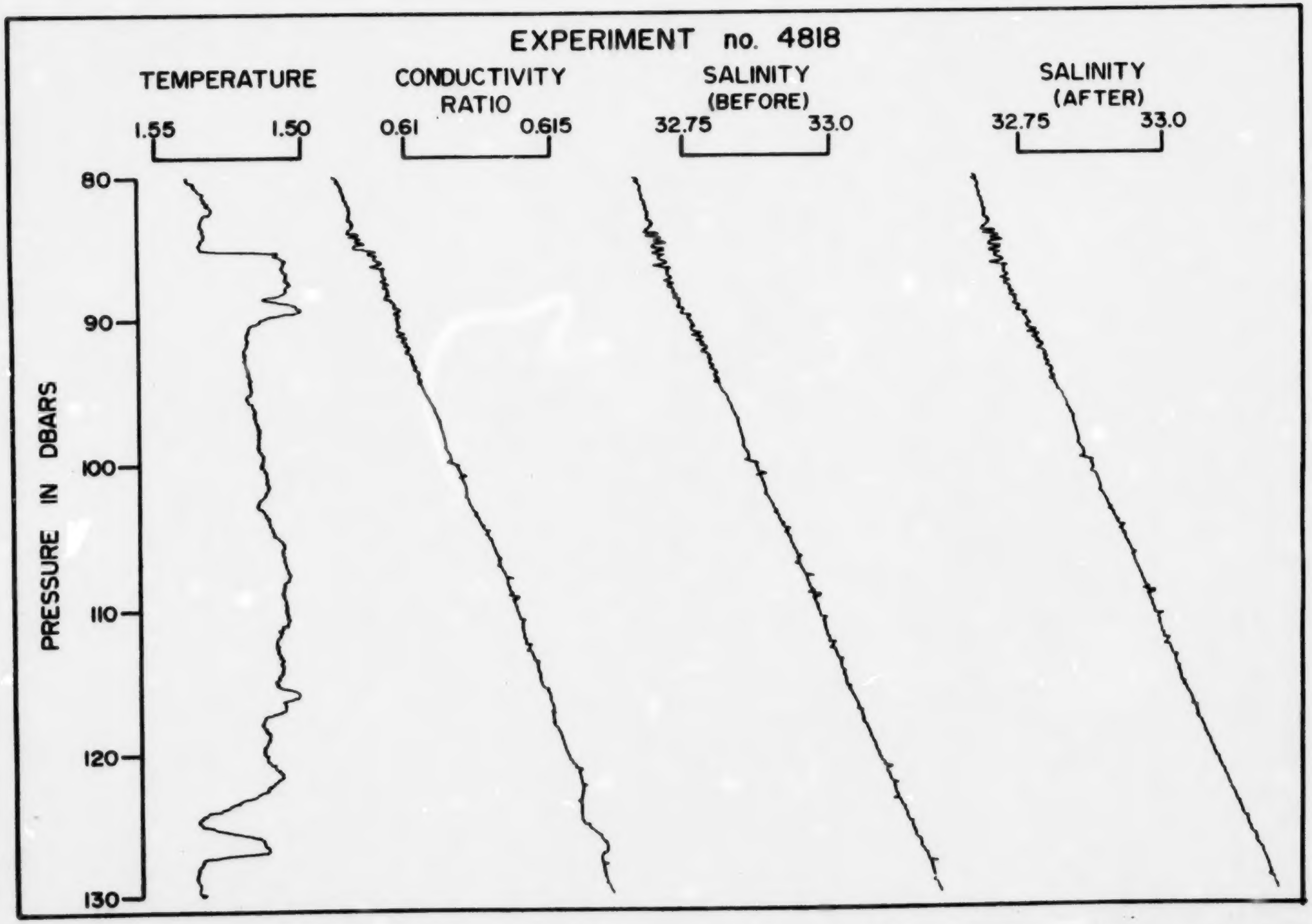


Figure 16: A portion of the CTD data from station E07 (experiment no. 4818) obtained on March 26, 1983. The conductivity and salinity (before) profiles exhibit spike-like features. Those spikes with amplitudes exceeding 0.010 in salinity are removed in the salinity (after) profile.

4. RESULTS

4.1 WATER-MASS DEFINITIONS

Throughout the study area, the water column consists of Arctic Water extending from the surface to depths of 250 to 300 m overlying Atlantic Water at greater depths. Under winter conditions, the Arctic Water can be subdivided into four layers, in order of increasing depth:

- a surface mixed layer, usually characterized by near freezing temperatures
- a subsurface temperature maximum layer within the halocline which occurs intermittently throughout the study area
- a cold layer within the halocline, wherein temperatures are within 0.1°-0.5°C of the freezing temperature
- the main thermocline layer where a pronounced gradient occurs in both temperature and salinity.

Atlantic Water is customarily defined as having temperatures in excess of 0.0°C, and where the water depth is sufficient, it underlies the colder, less saline Arctic Water. Within the study area, the temperature and salinity ranges of the Atlantic Water are determined in large part by the water-mass characteristics of the adjoining regions. For stations to the west and north of the limiting sills in the vicinity of Cornwallis Island, the Atlantic Water has characteristics similar to those of Canada Basin Atlantic Water (temperatures of up to 0.5°C and salinities of 34.55 to 34.85). In areas to the south and east of the major sills, the water-mass characteristics of Baffin Bay Atlantic Water differ significantly, being warmer (up to 2.0°C) and less saline (34.08 to 34.50 ± 0.05).

4.2 HYDROGRAPHIC SECTIONS THROUGH THE ARCHIPELAGO

Using the CTD data collected in the present study, vertical sections of temperature and salinity were prepared for two longitudinal transects through the Canadian Arctic Archipelago. One transect spans most of the length of Parry Channel beginning in the west at a location (E09) over the continental slope off M'Clure Strait and extending to western Lancaster Sound in the east, a distance of 1300 km (Figure 17). The basis of this transect is formed by 9 stations occupied by Arctic Sciences' personnel from March 23 to April 4. In order to improve the horizontal resolution in the central portion of this transect, some additional CTD data collected by FSRG and BLMSS were also used. The FSRG data consisted of two stations in eastern Viscount Melville Sound collected on March 23 (R.A. Lake, personal communication). The BLMSS data consisted of six stations collected over a longer time span: two stations (BML36 and BML66) on April 6-8, three stations (BML04, BML05 and BML25) on April 14-15, and one station (BML16) on April 25 (Prinsenberg and Sosnoski, 1983).

The second longitudinal transect passes from the continental shelf through the Queen Elizabeth Islands, to Penny Strait, Wellington Channel and Lancaster Sound, a distance of 850 km. Data for the transect consist of ten CTD stations occupied by Arctic Sciences Ltd., collected from March 20 to

April 2 and two BML CTD stations, collected on April 8 (BML64) and April 21 (BML21). To better define oceanographic conditions over the adjoining portion of the Arctic Ocean, a FSRG CTD station (203) obtained over the continental slope off Ellesmere Island on April 13 was also used (R. Perkin, personal communication). This latter station was located further from station P04 than the distance separating P04 from station E09 (380 km compared to 275 km). However, it may be more representative of conditions off the Queen Elizabeth Islands since it is located away from the Beaufort Sea where active modification of temperature and salinity properties are known to occur (Melling et al., 1984). On the vertical section plots and subsequent horizontal maps, the distance separating stations 203 and P04 is based on the offshore component of the actual separation between these two locations.

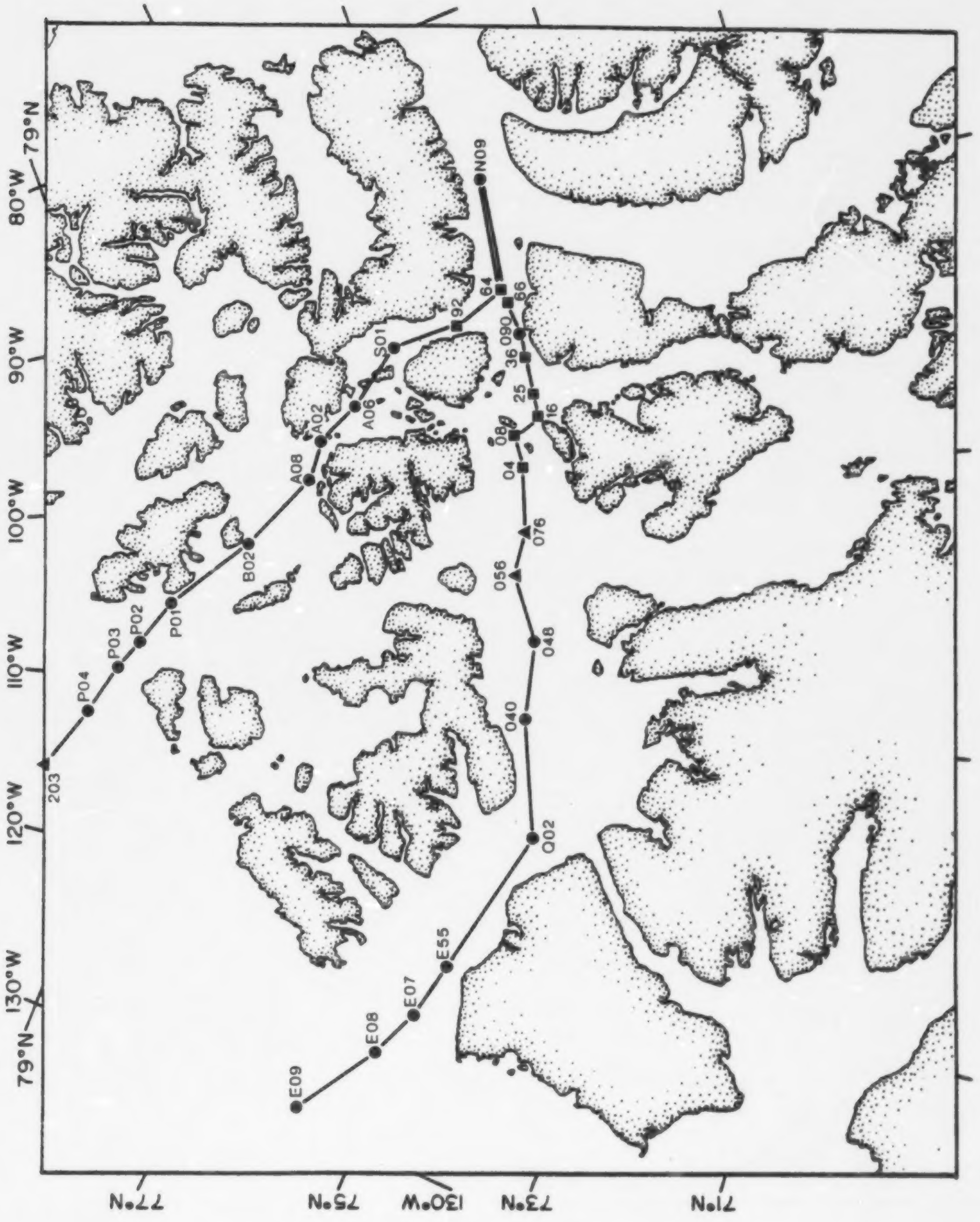
Parry Channel Vertical Section

Major differences in the temperature and salinity distribution (Figure 18) are apparent on either side of the relatively shallow waters of Barrow Strait. Below the sill depth of approximately 125 m, salinities are significantly reduced to the east of the Barrow Strait sill due to the influence of Baffin Bay Atlantic Water in place of Canada Basin Arctic Water. Salinity differences in the horizontal increase from 0.3 at 150 m depth (33.1 compared to 33.4) to nearly constant values of 0.6 at depths of 200 to 450 m (salinity of 34.29 at maximum depth in Lancaster Sound as compared to 34.83 in M'Clure Strait and Viscount Melville Sound). Over the same range of depths, the temperatures are consistently lower within and to the east of Barrow Strait. Temperatures are within a few tenths of a degree of the freezing value (-1.75 to -1.6C°) as compared to a range of -1.50 to -1.00°C further to the west, at 150 m depth. Temperature differences in the horizontal decrease with increasing depth, with temperatures approaching 0.4°C at maximum depths on either side of the sill in Parry Channel.

Throughout the Parry Channel transect, an overall trend of increasing temperatures and salinities towards the east is evident at depths less than 200 m or salinities less than 34.0. The magnitude of the horizontal gradients varies along the length of the transect, being largest over the continental slope and outer area of the shelf, and along the western side of the Barrow Strait sill. From eastern Barrow Strait through western Lancaster Sound, the salinities continue to increase but the temperatures decrease with easterly progression.

Some features with smaller horizontal scales are also evident in the vertical section. Of largest amplitude is the doming of both isotherms and isohalines in eastern Viscount Melville Sound and western Barrow Strait. The largest upward displacement of the contour lines occurs to the west of station BML04, although in the portion of the water column within 40 m of the bottom, the maximum upward displacement appears to be located further to the east, coinciding approximately with the location of the Barrow Strait sill. Further to the east, the isopleths have a very large downward slope, particularly at depths from 125 to the bottom at 220 m. This doming of isotherms and isohalines suggests that an eastward transport may be occurring near the bottom in the vicinity of the Barrow Strait sill. Water having temperatures near -1.3°C and salinities near 33.4 is found at a depth of about 150 m, in Viscount Melville Sound. Assuming a net eastward movement, water of this type rises to depths of approximately 120 m over the sill and then abruptly descends to depths near the bottom (200 m or greater) in central and eastern

Figure 17: The locations of CTD stations used in constructing the vertical sections through Parry Channel and the Queen Elizabeth Islands (Figures 18 and 19). Stations are denoted by circles (occupied by ASL, March 20-April 4, 1983); triangles (occupied by FSRG, Viscount Melville Sound, March 24; Arctic Ocean, April 13); and squares (occupied by BLMSS, April 6-25, 1983).


79°N
80°W
90°W
100°W
110°W
120°W
130°W
79°N
77°N
75°N
130°W
73°N
71°N
N09
64
66
92
S01
090
36
25
16
08
04
076
056
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P03
P04
203

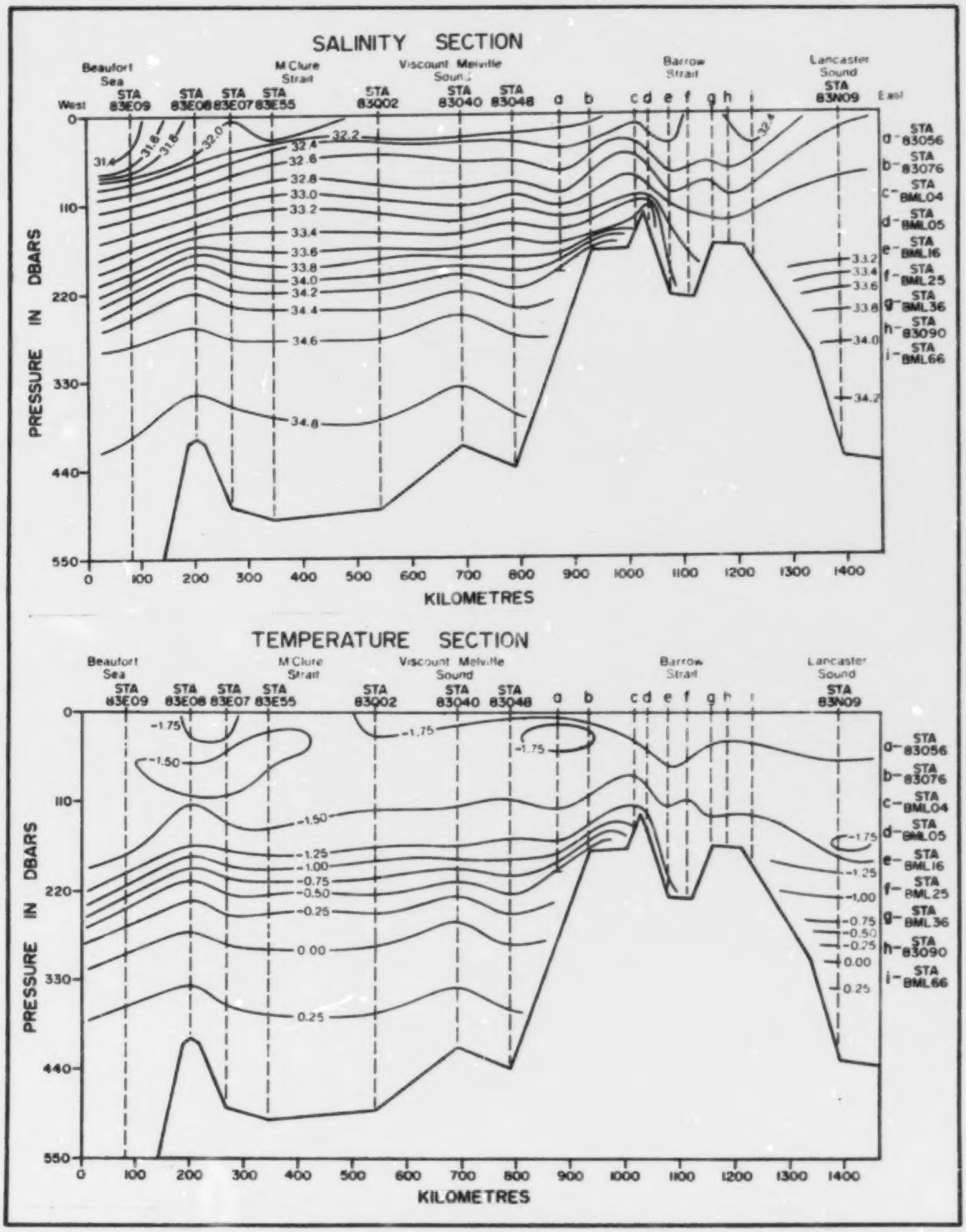


Figure 18: Vertical sections of temperature and salinity through Parry Channel in March-April, 1983. Station locations are shown in Figure 17.

Barrow Strait. Water of the same temperature-salinity (T-S) characteristics was also observed at depths of 190 m at station N09 in western Lancaster Sound. For waters with larger salinities, the isohalines also rise on the western flank of Barrow Strait but do not appear to pass over the sill. Furthermore, at more easterly locations, there is no evidence of similar temperature-salinity characteristics; for a given salinity greater than 33.5, water temperatures are significantly higher in Lancaster Sound.

Doming of temperature and salinity contours also occurs near stations E08 off western M'Clure Strait and near 040 in central Viscount Melville Sound. In both areas, this feature is concentrated in the lower half of the water column, below depths of about 150 m and salinities of 33.6. In the former area the feature results from the tilting upward of isopleths of temperature and associated with the Beaufort Gyre flowing southeastward over the continental slope.

For comparison with oceanographic conditions in previous years, vertical cross sections of temperature and salinity through Parry Channel derived in earlier studies are presented in Figures 19 and 20. In both of these studies, measurements were obtained from bottle casts in the summer months. Data from 1956 and 1957 in eastern Parry Channel along with 1958, 1960 and 1961 data for the western channel and Arctic Ocean were used by Collin (1962) to construct Figure 19. Data collected in 1970 from the Hudson '70 expedition were used in Figure 20 (Bellefontaine et al., 1982). At depths greater than 100-150 m the same general patterns observed in 1983 are evident in the earlier cross sections; above 150 m, seasonal differences predominate with warmer less saline water characteristics observed under the summer conditions. The most notable difference observed in 1983 in comparison with the earlier results is found in western Lancaster Sound where temperatures in 1983 are markedly cooler by up to 0.5 approximately 150 to 225 m. This difference results from lateral intrusions of near-freezing waters advected westward from northwestern Baffin Bay, as discussed in Section 4.4-3. The overall eastward trend toward increasing temperature and salinity in western Parry Channel noted in the 1983 results can also be discerned in the earlier cross sections; however the larger horizontal gradients and doming characteristics observed in 1983 within 100 km of the Barrow Strait sill are not as prominent, apparently due to the greater station separation for the earlier cross sections.

Queen Elizabeth Islands - Baffin Bay Vertical Section

Water properties on the vertical transect extending from the Arctic Ocean through the Queen Elizabeth Islands (Figure 21) are similar in many respects to the vertical sections derived for Parry Channel (Figure 18). At depth the waters on either side of the limiting sill in Queens Channel exhibit the characteristics of Arctic Ocean Atlantic Water to the north and west and Baffin Bay Atlantic Water to the south and east. A gradual increase in temperature and salinity from northwest to southeast is also evident, similar to the pattern exhibited through Parry Channel.

Immediately to the west of the Queens Channel sill, the upward tilting of the temperature and salinity contours is pronounced in the uppermost 150 m of the water column. However, unlike the Parry Channel transect, a large gradient of opposite sign exists at depths from 150 m to the bottom (Figure 22). This difference is very striking between stations A08 and A02. At the latter location the water column, from 150 m to the bottom at 250 m, has a

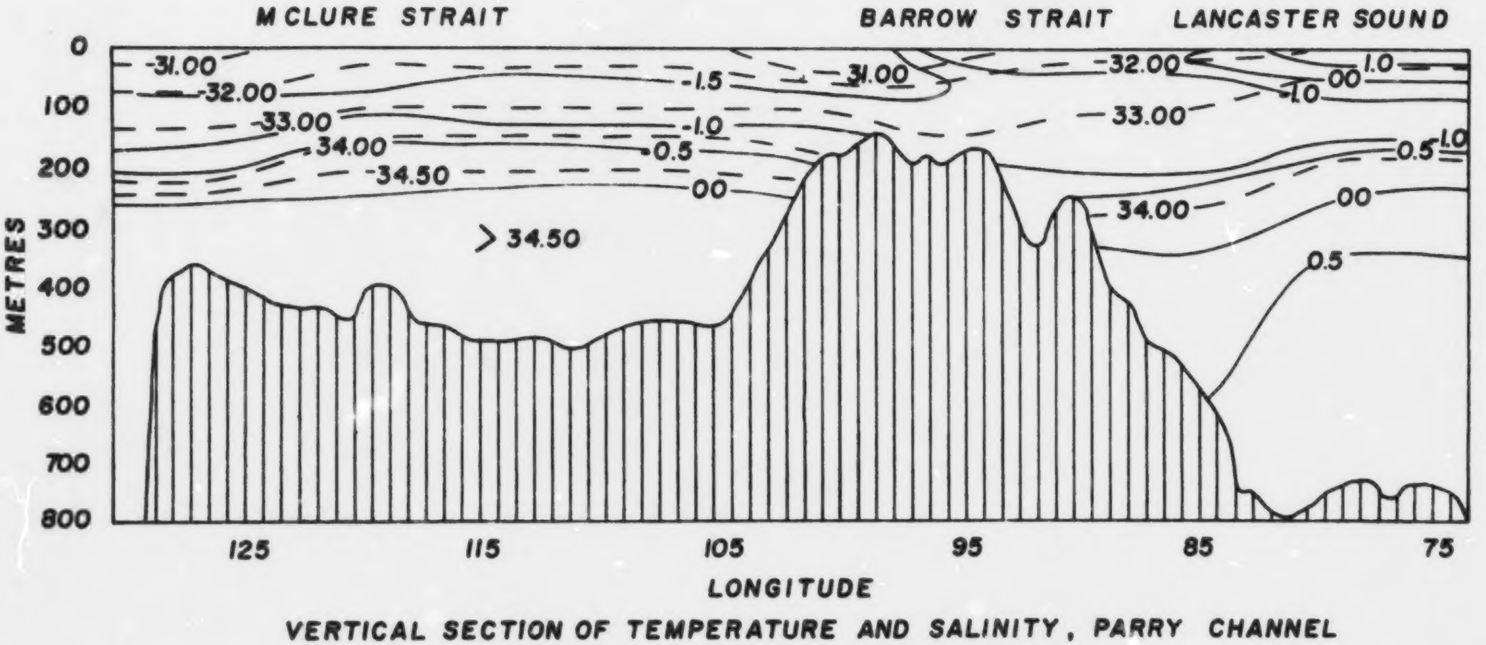


Figure 19: Vertical section of temperature and salinity through Parry Channel derived from summer bottle data in the late 1950's (collin, 1962).

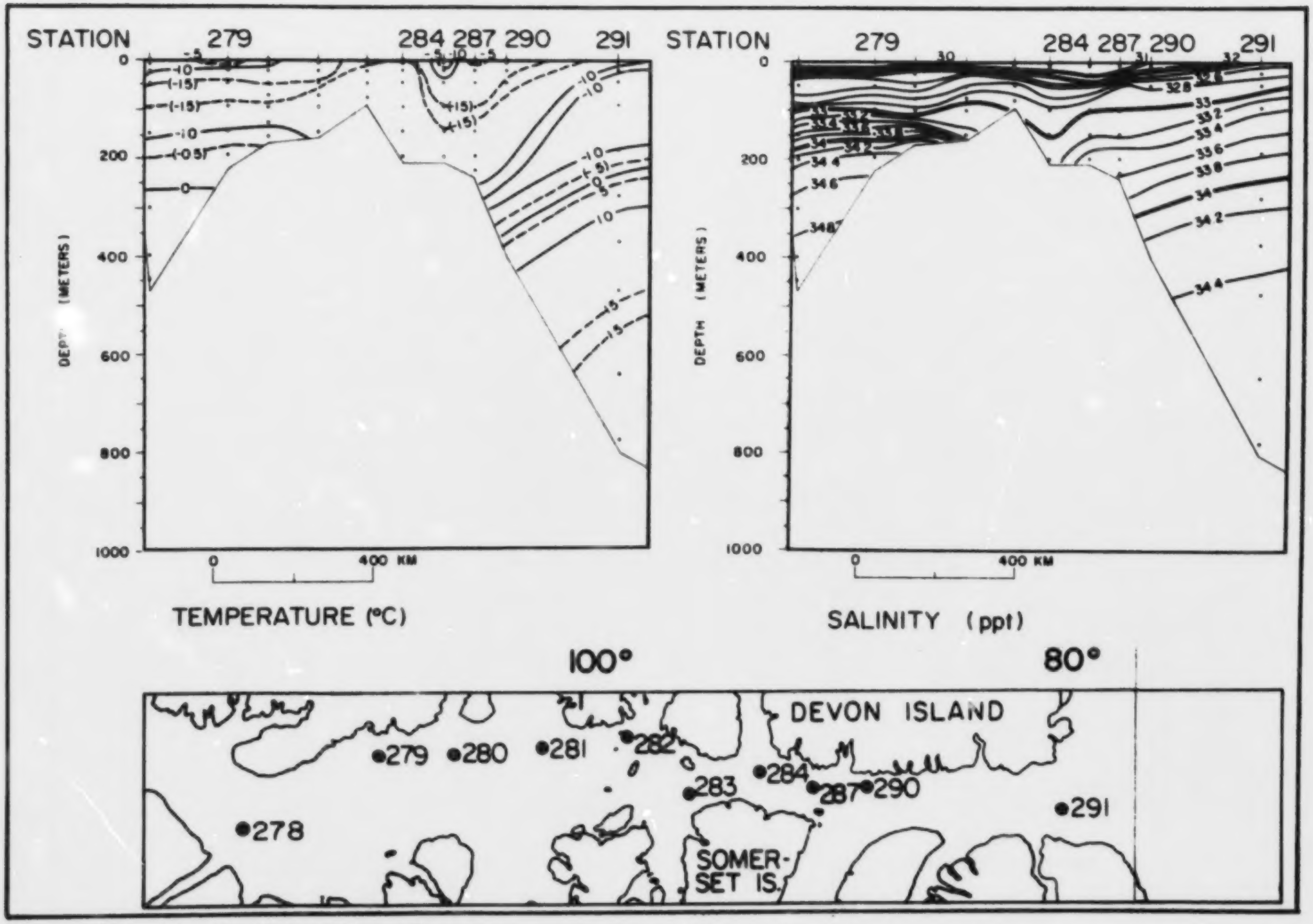


Figure 20: Vertical section of temperature and salinity through Parry Channel derived from bottle data of the Hudson '70 cruise from September 25 to October 1, 1970 (Bellefontaine et al., 1982).

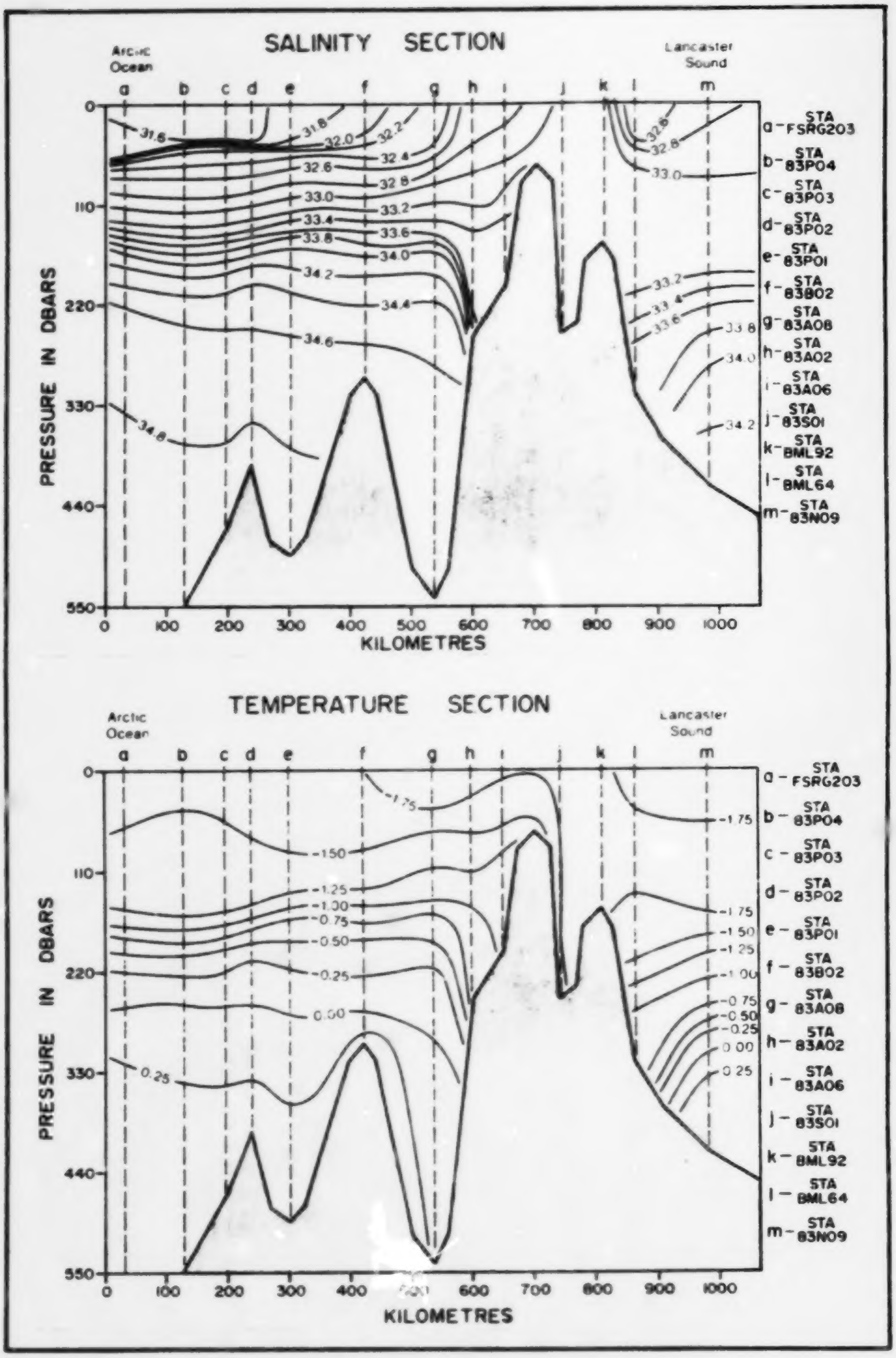


Figure 21: Vertical sections of temperature and salinity within the Archipelago through the Queen Elizabeth Islands and Lancaster Sound. Station locations are shown in Figure 17.

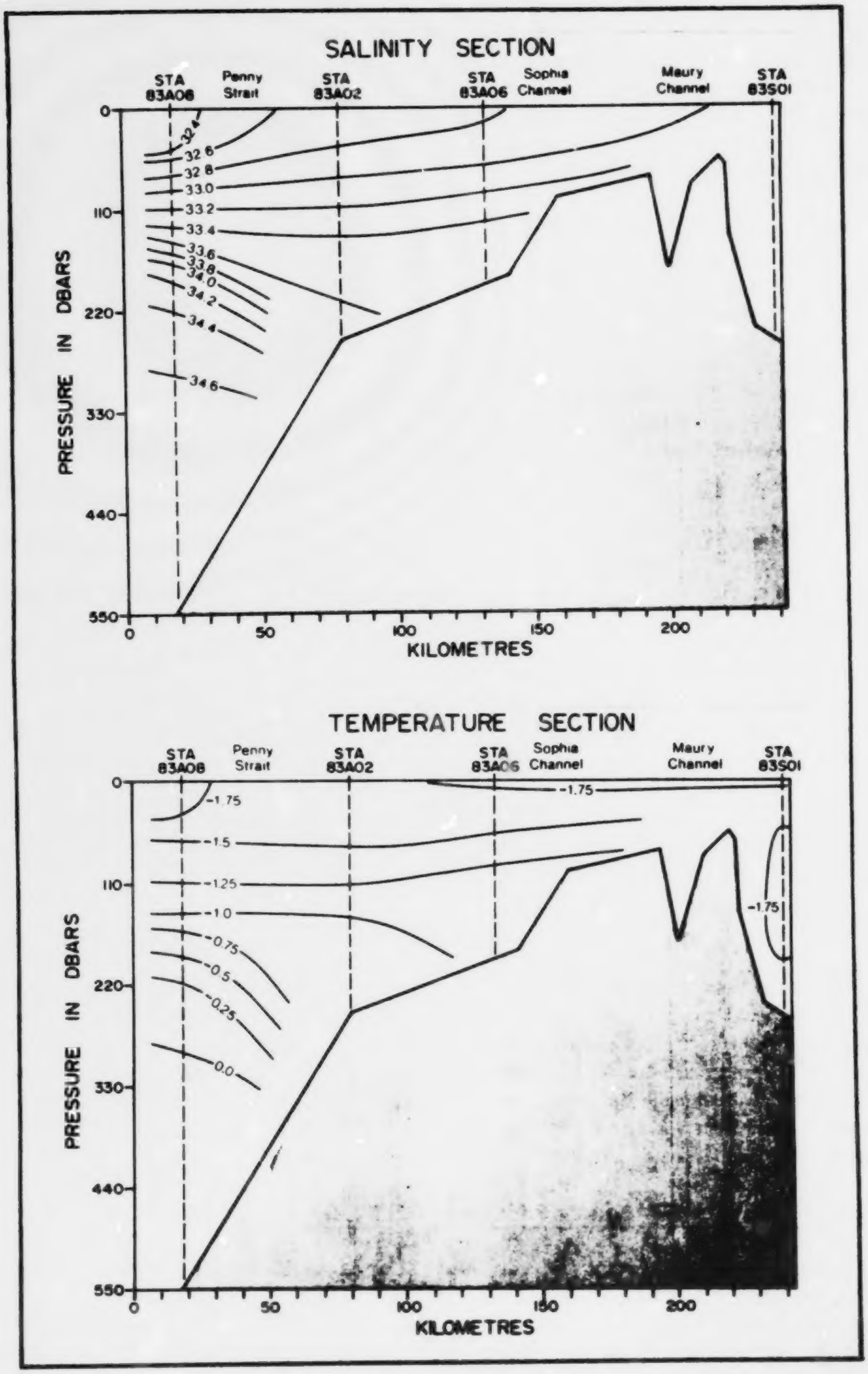


Figure 22: Vertical sections of temperature and salinity from northwest of Penny Strait to northern Wellington Channel. Station locations are shown in Figure 14.

small temperature and salinity range of -1.0°C to -0.8°C and 33.55 to 33.75, respectively, while the water column at station A08, located 60 km to the northwest, is much more stratified, having corresponding ranges of -0.95°C to -0.1°C and 33.7 to 34.5. A sill having a limiting depth of approximately 150 m in the area between stations A08 and A02 could account for this result. Unfortunately, available bottom soundings, including the 1976 survey with a spacing of 1 km, are not adequate to define the sill depth due to the highly irregular bottom in this area.

In Wellington Channel immediately to the southeast of the sill region, the water column exhibits a very low degree of vertical stratification. At stations S01 and BML64, the range of surface to bottom temperatures and salinities are limited to -1.75°C to -1.64°C and 33.03 to 33.15, respectively. The reduction in vertical stratification to the east of the Queens Channel sill is considerably more pronounced than is the case to the east of the Barrow Strait sill, where surface to bottom salinities typically range from 32.4 to 33.1. The reduced level of vertical stratification suggests that a greater amount of vertical mixing occurs in Queens Channel than in Barrow Strait.

4.3 GEOSTROPHIC CURRENTS

Baroclinic currents were computed for each of the cross-channel sections as well as for the sections occupied across the Arctic Ocean continental shelf. The discussion of the currents is organized by area. The reference levels (levels of no motion) used in the sections were generally chosen to be as deep as possible between station pairs, unless other data such as direct current measurements suggested some alternate choice for the reference level. The error in the baroclinic current between two stations is determined largely by the error in σ_t, positional errors usually being negligible in comparison when a system such as GNS is in use. For a given error $\delta\sigma_t$ in density measurement, the error in the baroclinic current at a height, h, above the reference level is approximately given by

$$\delta v \approx \sqrt{2}\, gh\, \delta\sigma_t/(\rho f \Delta x)$$

where ρ is the mean water density, Δx is the station separation, g is the acceleration due to gravity and f is the Coriolis parameter. The standard errors of 0.002C° temperature and 0.008 in salinity given in Section 3.2, result in a value for $\delta\sigma_t$ of approximately 0.008 for the range of temperature and salinity covered by the data here. Figure 23 shows the resulting geostrophic current error δv as a function of h and Δx. In most of the discussion that follows, $\delta v \approx 0.5$ cms^{-1}.

Queen Elizabeth Islands (Sections A, B, D)

Sections B and D (across Maclean Strait and Hazen Strait, respectively) show little in the way of horizontal gradients in either temperature or salinity (Figure 24), as was the case in 1982. The baroclinic flow is consequently very small, with flows at 10 dbar relative to 200 dbar being less than 2 cm/s in these straits, directed into the Archipelago in both cases.

In contrast, stronger horizontal gradients are evident in the temperature and salinity sections across Penny Strait (Figure 25). Because of the small size of the area and the difficulty of finding landing spots for a fixed-wing

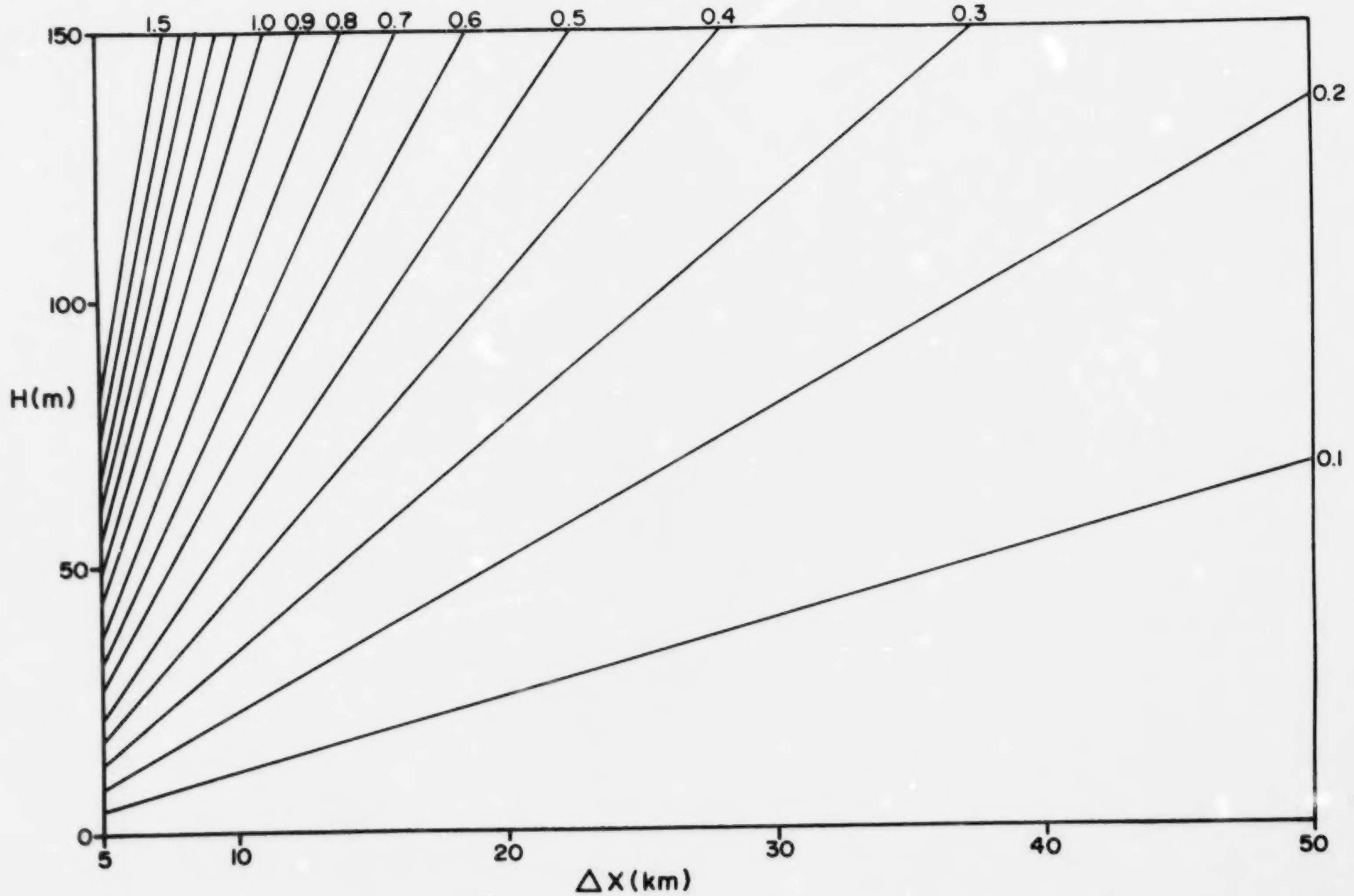


Figure 23: The uncertainty in the baroclinic currents (cms^{-1}) expected on the basis of observed standard errors in the CTD temperature and salinity, as a function of height above reference depth (H) and horizontal separation (ΔX).

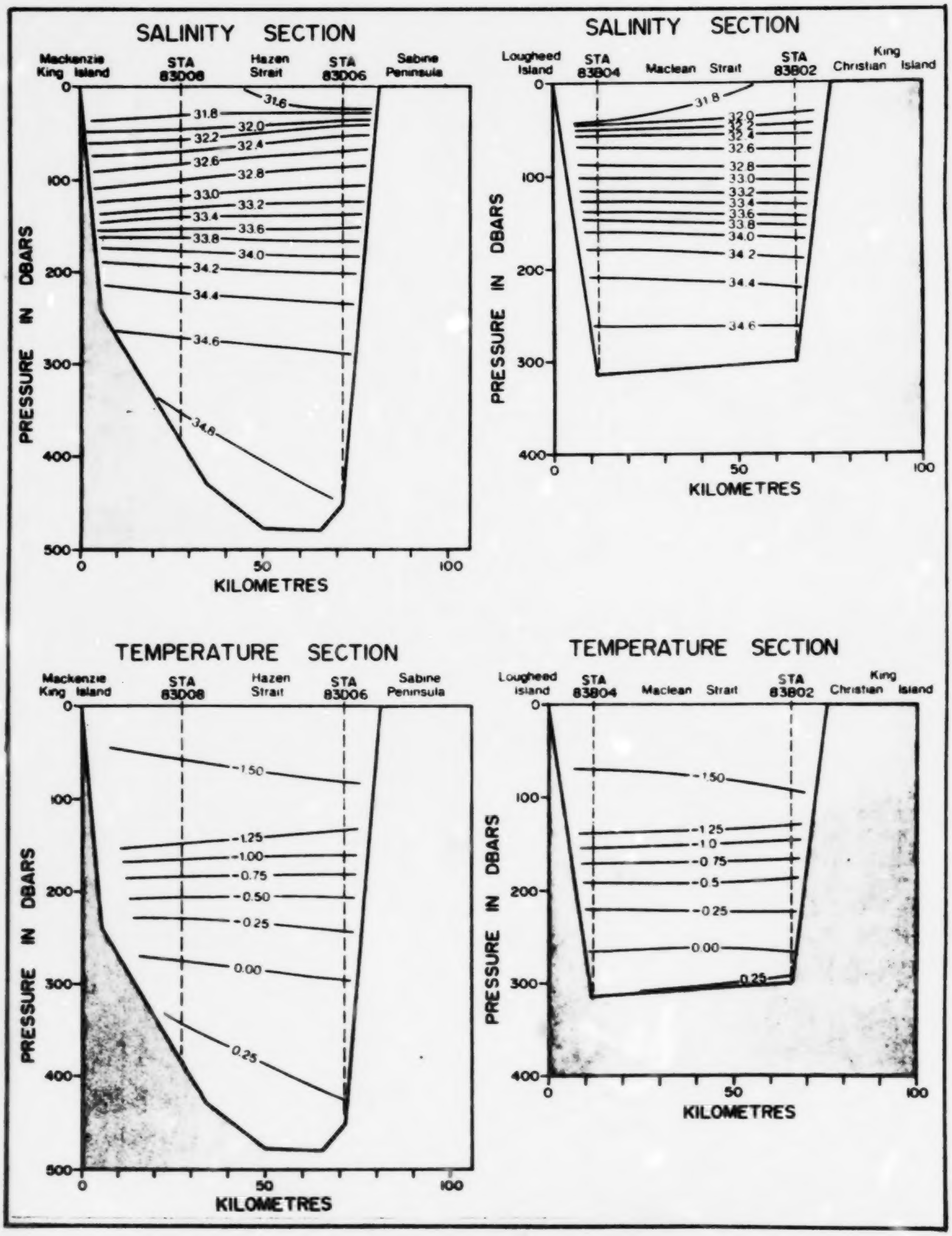


Figure 24: Vertical sections of temperature and salinity through Hazen Strait and Maclean Strait in the Sverdrup Basin. Station locations are shown in Figure 13.

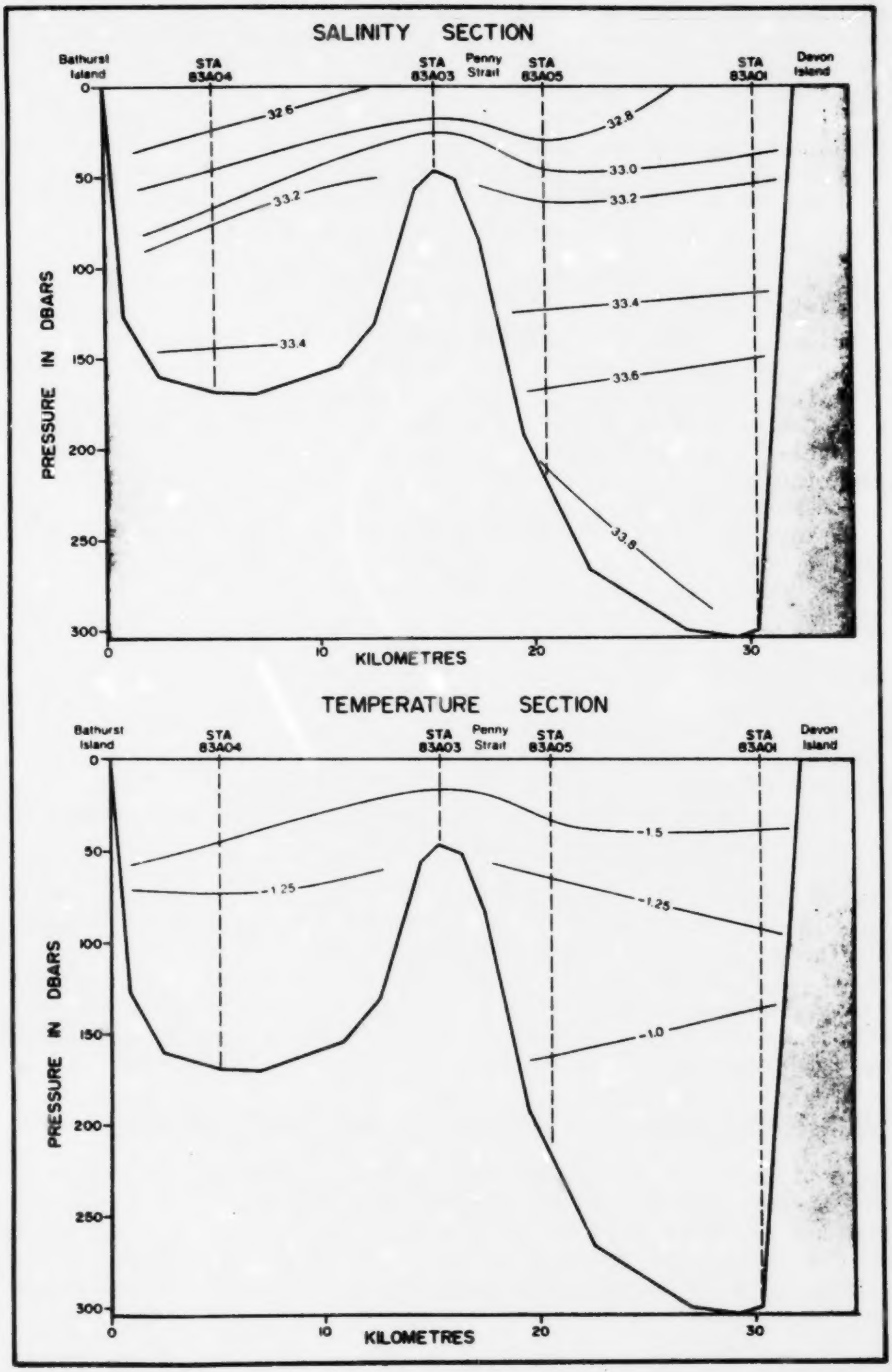


Figure 25: Vertical sections of temperature and salinity through Penny Strait. Station locations are shown in Figure 14.

aircraft, the stations do not form a straight line across the channel. In particular, station A02 has not been included in Figure 25, as it was positioned well to the south of the rest of the stations. Within Penny Strait, considerable internal wave activity exists (Section 4.5) leading to possible uncertainties in baroclinic flow of ± 3 cm/s over distances of 10 km. In 1982, southerly flow was found across the whole channel, with the strongest flows concentrated on the east side. The position of the current is apparently determined by the complex bathymetry of the strait, which has a deep (>350 m), narrow trench entering from the north on the east side which then cuts across to the western side and exits to the south.

In 1983, southerly flow is again apparent across most of the section, with the exception of the centre of the channel, where a counterflow is apparent between stations A03 and A05. Station A03 is, however, situated in a very shallow (<50 m) area north of the deep trench and may not be in the main path of the flow. Because of the positioning of the 1983 stations, only three stations in the section extended to depths greater than 150 m. Computation of the geostrophic flow at 10 dbar relative to 150 dbar showed currents weaker than those observed in 1982, although still stronger on the east side of the channel (6.5 cm/s between stations A05 and A01) than the west side (5 cm/s between stations A04 and A05). Note that flows computed between station pairs A01/A05 and A05/A94, separated by distances of 9 and 16 km, respectively, may not be fully comparable given the internal Rossby Radius of 5 km for this area.

A comparison of currents on opposite sides of the strait using station pairs with more nearly equal spacing may be made using stations A04 and A03 on the west side, and stations A05 and A01 on the east side. Use of station A03 limits the choice of reference level to 30 m depth, however. The surface shear (5 dbar to 30 dbar) is then found to be the same on both sides of the strait, with currents at 5 dbar of 3.5 cms^{-1} to the southeast, relative to 30 dbar.

Computation of the geostrophic flow between stations A05 and A02 (situated 5 km southeast of the line joining the rest of the stations and not shown in Figure 23) and A01 and A02 showed easterly flows at 10 dbar relative to 150 dbar of 8 cm/s for A05 and A02 and 25 cm/s for A01 and A02. The relationship of these results to the southerly flow indicated for the rest of the section is not clear; they may represent a westerly subsurface flow following the deep trench, rather than an easterly surface flow.

M'Clure Strait and Arctic Continental Shelf (Sections Q, E, P)

Figure 26 shows vertical sections of temperature and salinity for line Q across the eastern end of M'Clure Strait. The horizontal gradients are small, corresponding to baroclinic flows of less than 2 cms^{-1} on both sides of the channel. The current is directed to the east (relative to 400 dbar) over the entire channel; it is concentrated within the upper 20 m on the south side of the strait, but extends to over 200 m depth on the north side.

In view of the very small slopes of the isopycnals on geopotential surfaces (differences of less than 0.082 sigma-t units per 50 km) and the comparatively large absolute measurement uncertainties of 0.008 sigma-t units, the magnitude of the computed geostrophic shears must be regarded as highly uncertain.

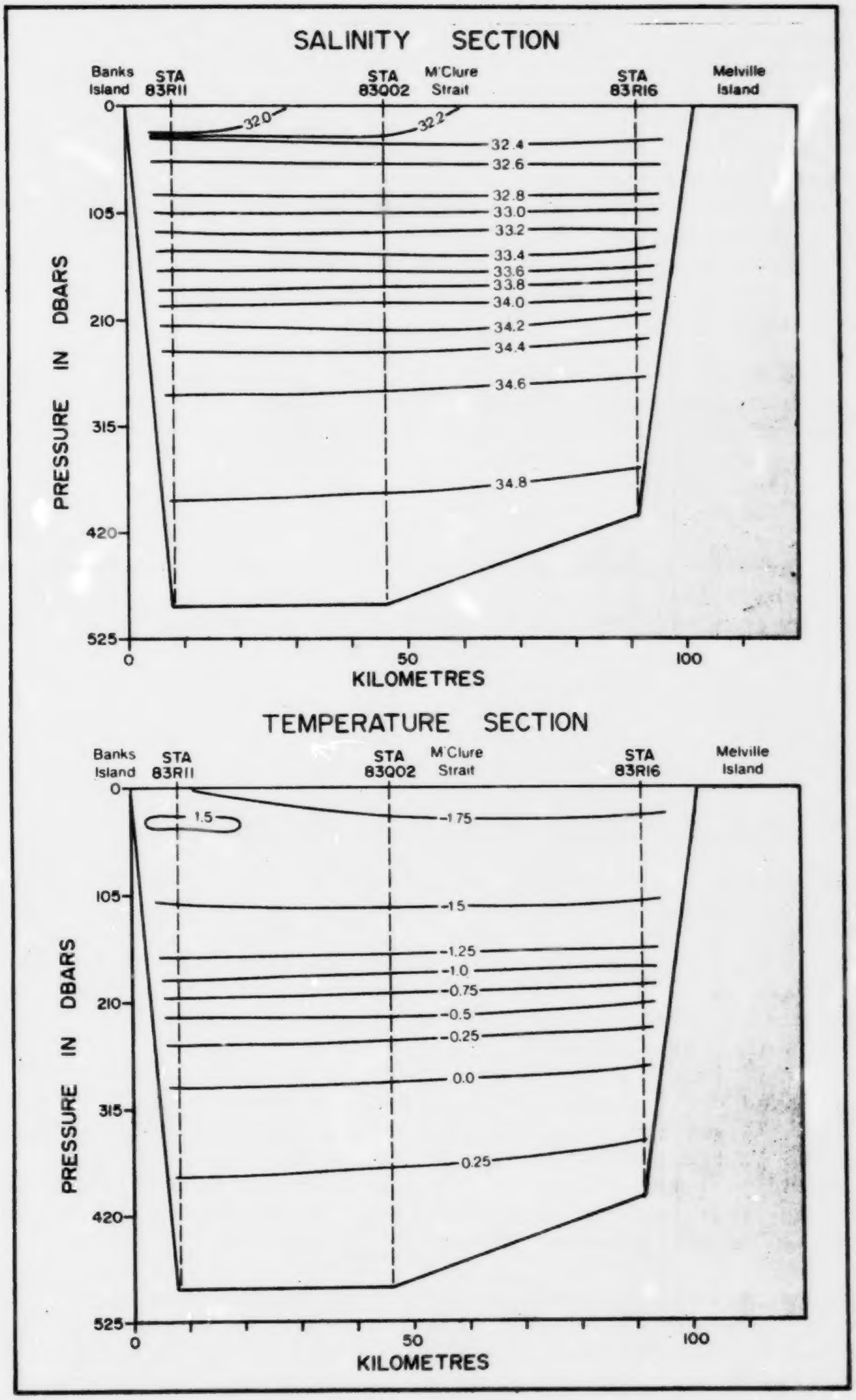


Figure 26: Vertical sections of temperature and salinity through M'Clure Strait. Station locations are shown in Figure 9.

Cross sections of temperature and salinity for line E, running across the continental shelf west of M'Clure Strait are shown in Figure 27. Baroclinic flow is concentrated between stations E08 and E09, with a surface current velocity of 5 cms^{-1} to the southwest, relative to 300 dbar. The true dimensions of the flow are almost certainly not resolved, since the stations are separated by 120 km; the current is likely to be narrower, swifter and concentrated over the continental slope. The baroclinic flows (relative to 300 dbar) on the shelf itself are very weak (≤ 1.5 cms^{-1}) and vary in direction with both depth and position on the shelf. There may, of course, be stronger cross-shelf flows which would not be detectable given the orientation of the station line, however, the lack of significant flows further east in M'Clure Strait makes it unlikely.

Figure 28 shows the baroclinic current profile computed between stations E06 and E55, north of Cape M'Clure or Banks Island. Relative to 300 dbar, westward flow of approximately 2 cms^{-1} is shown between the surface and 200 m. If, as may be more likely (Melling et al., 1984), the surface flow is zero, then the profile indicates an eastward flow of approximately 2 cms^{-1} between 250 m and the bottom.

Temperature and salinity cross sections from line P, running across the continental shelf into the Prince Gustaf Adolf Sea are shown in Figure 29. The horizontal gradients are small, and indicate southwesterly surface flow of less than 2 cms^{-1} (relative to 300 dbar). Note, however, that the section does not extend to the edge of the shelf and that significant flows which may exist over the continental slope would not be detected. The weak southwesterly currents indicated at the inner end of the section correspond to a flow toward the entrance to Hazen Strait.

Prince Regent Inlet and Lancaster Sound (Sections L and N)

As was the case in 1982, there is significant spatial variation in the baroclinic flow through section L across Prince Regent Inlet (Figure 30). The geostrophic current profiles computed for this area are shown in Figure 31. The reference level for each station pair was taken as the deepest common standard pressure. All the profiles show much stronger flows at depths between 150 and 250 dbar, with northward velocities near 12 cms^{-1} on the west side (between stations L02 and L03) and southward flow in the centre and on the east side (7 cms^{-1} between stations L03 and L04, and 2 cms^{-1} between stations L04 and L06). In all three cases, the near-surface flow is small (approx. 2 cms^{-1}) and to the north. As was the case in 1982, strong velocity shears extend to the reference levels, with the result that the computed currents should be treated with caution, as a change in reference level could result in large changes in the magnitude or direction of computed velocities in the upper 200 m of the water column.

Several prominent features in the current pattern persisted from 1982 to 1983. Among these were the strong southward-flowing subsurface core in the middle of the channel (12 cms^{-1} at 125 m in 1982, 7 cms^{-1} at 200 m in 1983), and the northward flow on the west side of the inlet. In contrast to 1982, however, the flow on the western side of the channel is concentrated in a strong subsurface core (12 cms^{-1} at 175 m between L02 and L03), rather than

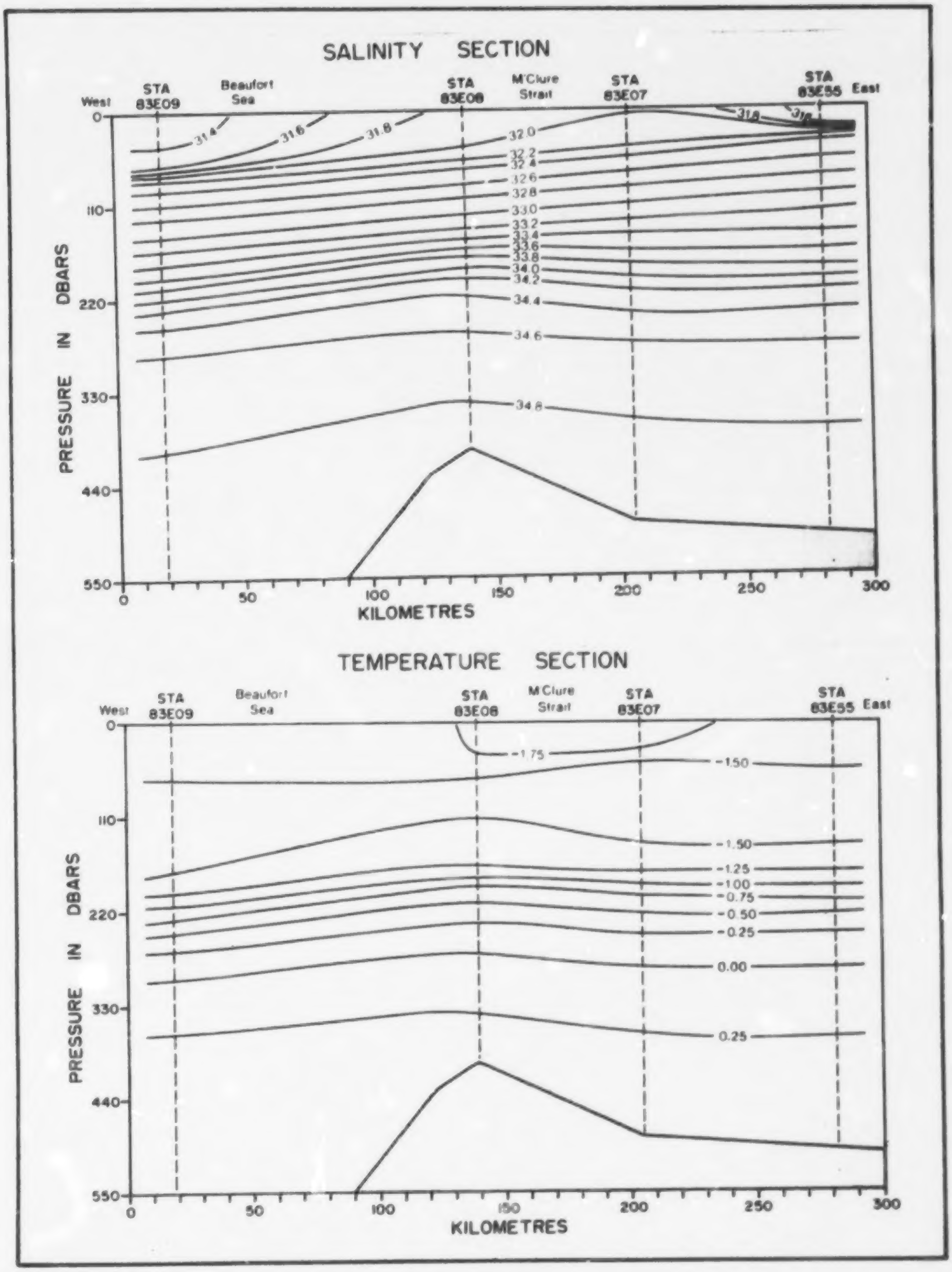


Figure 27: Vertical sections of temperature and salinity from western M'Clure Strait to the adjoining continental shelf and slope. Station locations are shown in Figure 9.

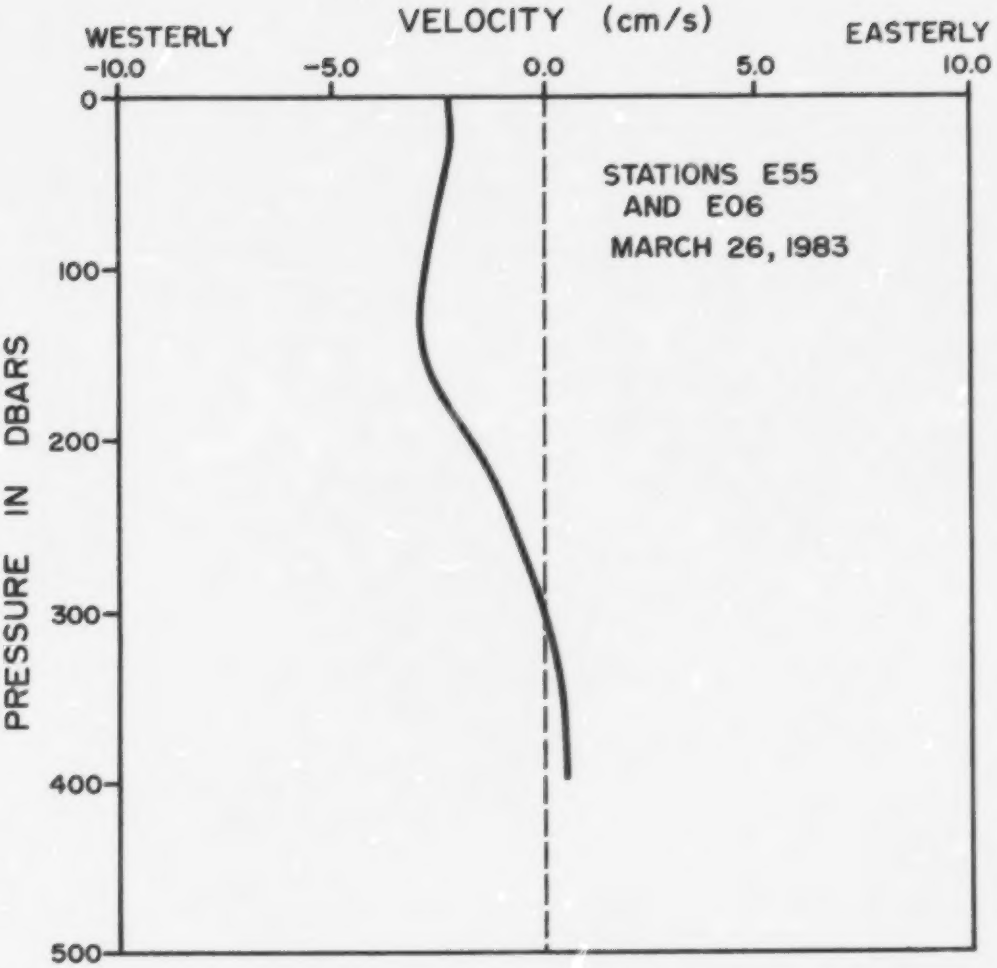


Figure 28: The computed geostrophic shear between stations E06 and E55. Positive values indicate a flow toward 77°T.

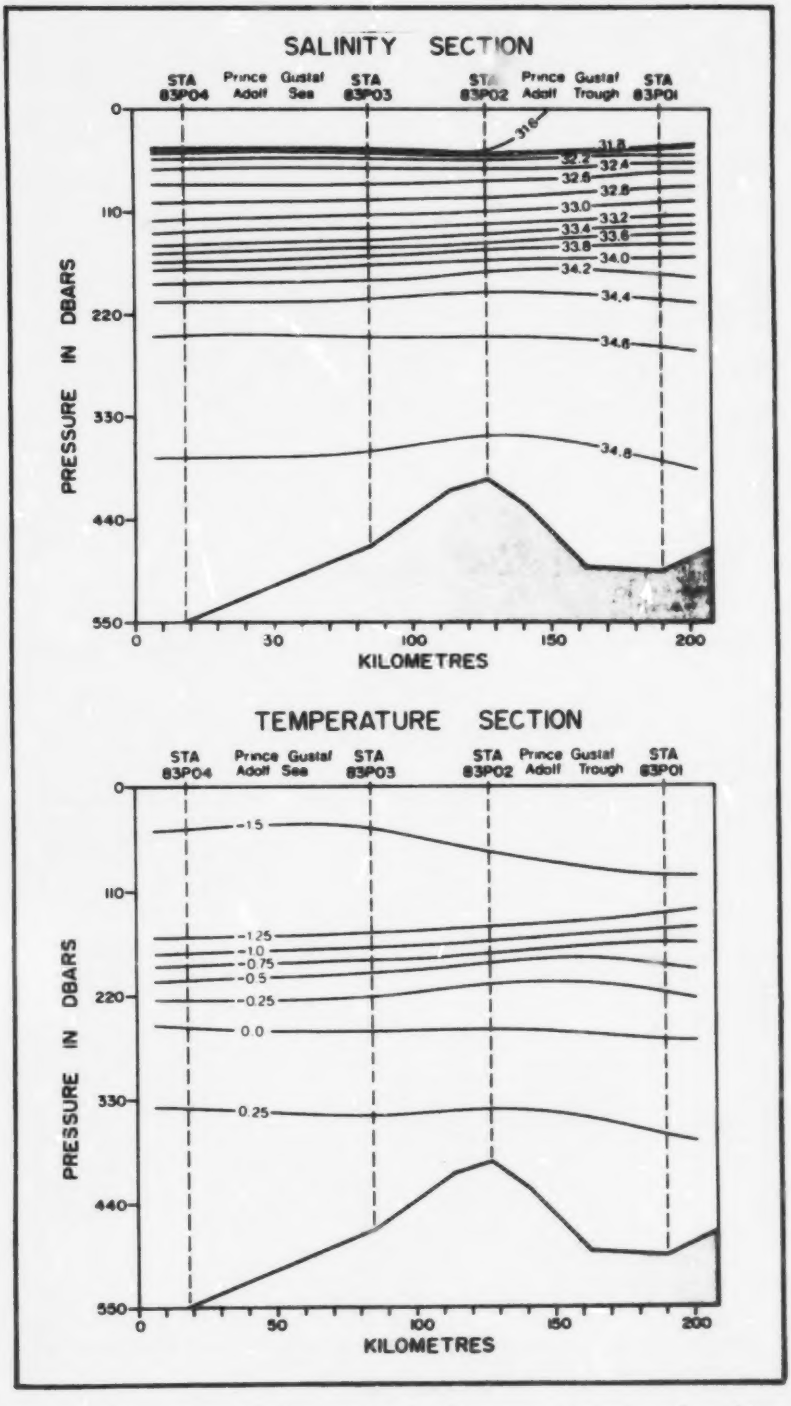


Figure 29: Vertical sections of temperature and salinity through Prince Gustaf Adolf Sea. Station locations are shown in Figure 12.

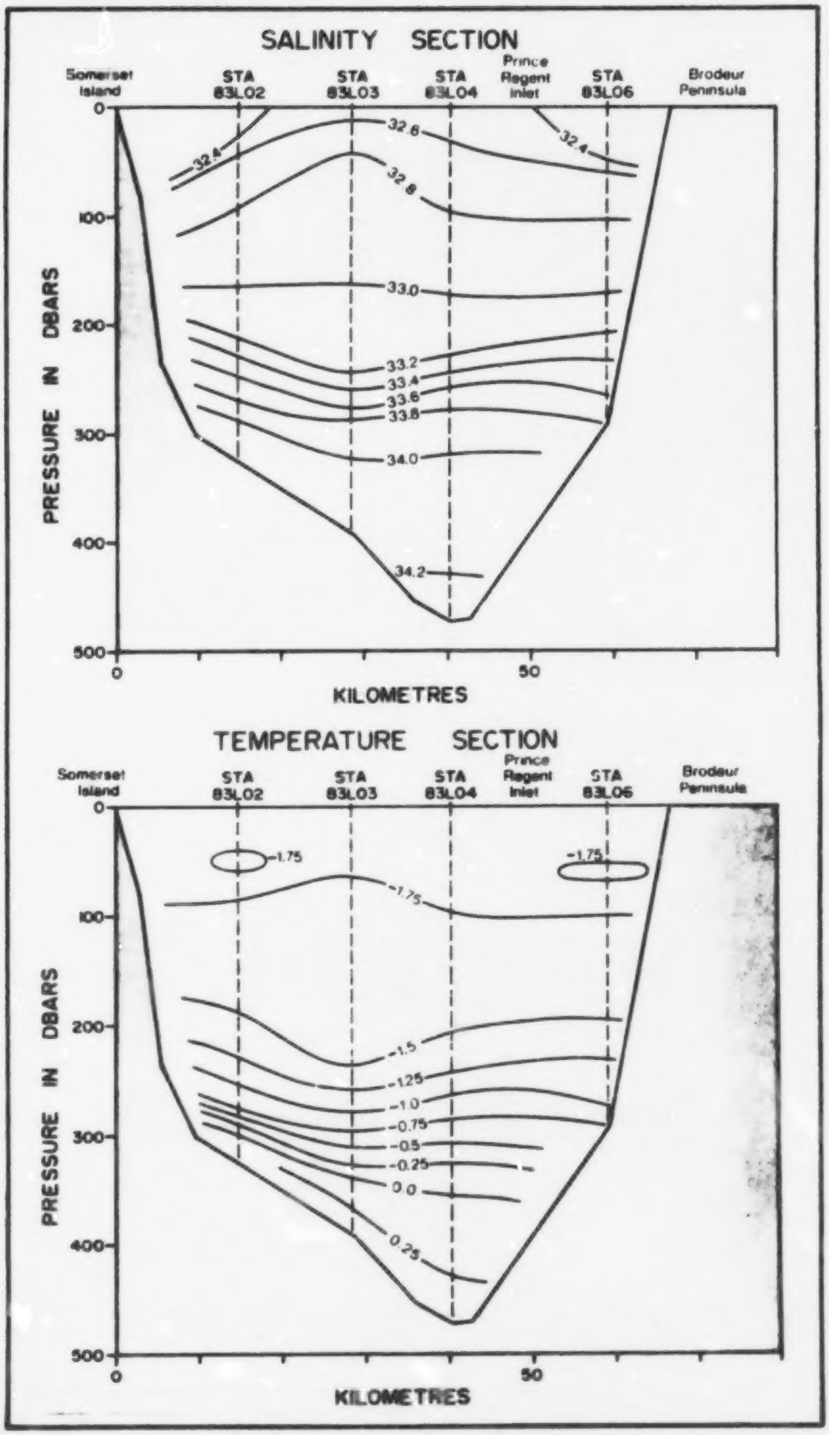
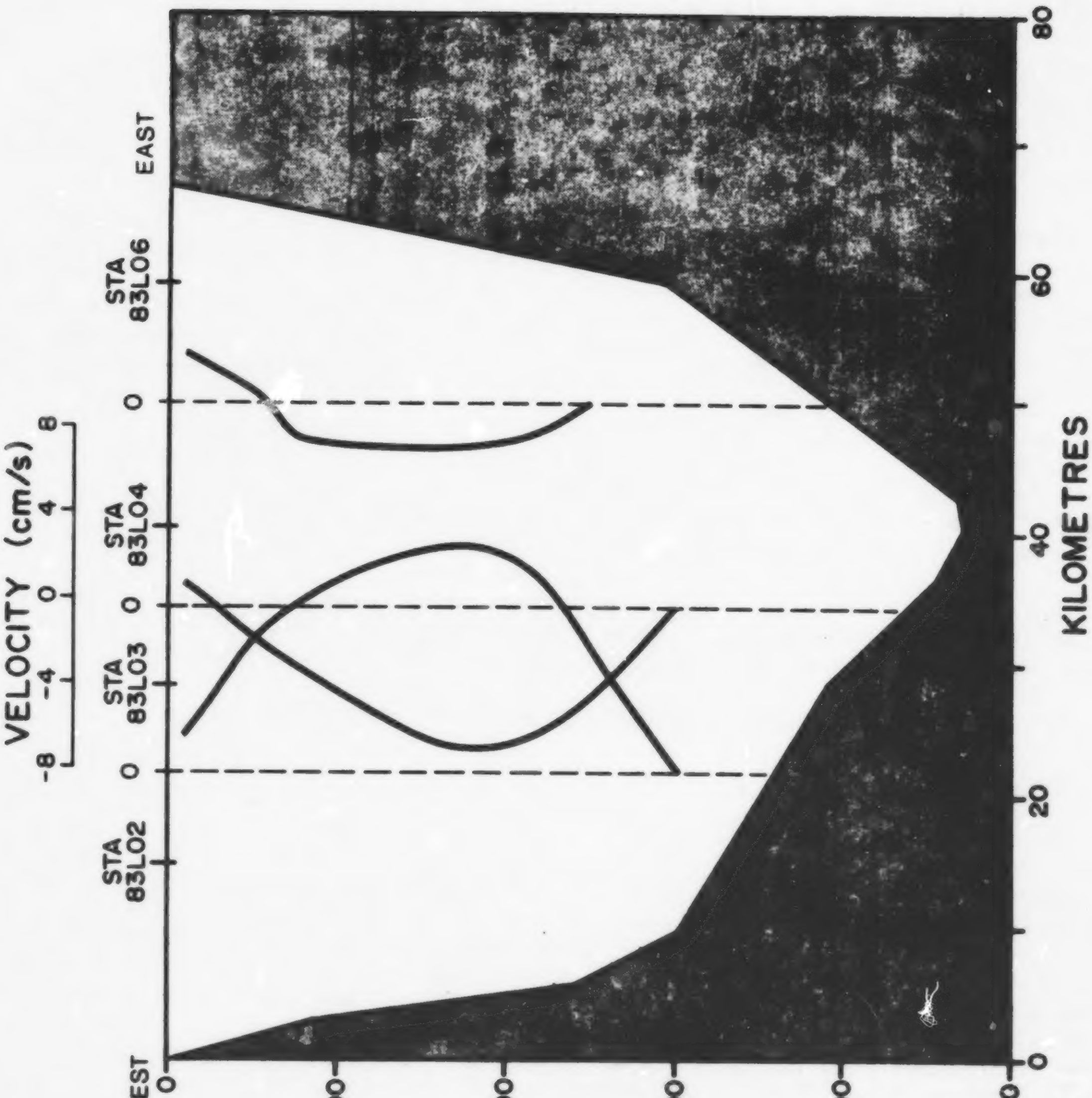


Figure 30: Vertical sections of temperature and salinity through Prince Regent Inlet. Station locations are shown in Figure 15.

Figure 31: The computed geostrophic shear between stations in Prince Regent Inlet. Positive values indicate a flow to the north.


VELOCITY (cm/s)
-8
-4
0
4
8
WEST
EAST
STA 83L02
STA 83L03
STA 83L04
STA 83L06
0
0
0
PRESSURE IN DBARS
0
100
200
300
400
500
KILOMETRES
0
20
40
60
80

being strongest at the surface. With the exception of the near-surface layer there was no northerly flow on the eastern side of the inlet, unlike the situation in 1982.

Lack of suitable ice cover prevented the occupation of the full section N in Lancaster Sound. Figure 32 shows the vertical sections of temperature and salinity, with the derived current profiles in Figure 33. Both profiles show relatively uniform eastward flow in the upper part of the water column (12 cms^{-1} above 150 m between N01 and N09, 2 to 5 cms^{-1} above 150 m between N09 and N07). As was the case in 1982, the current speeds are higher on the north side than in the centre of the Sound; the effect is considerably greater in 1983 however with higher speeds over a greater depth resulting in a significantly greater portion of the apparent transport being found on the north side.

Figure 34 summarizes the near-surface (10 dbar) current velocities computed with respect to the various deep reference levels for the whole data set. The general pattern is similar to that observed in 1982, with weak southeastward flow (<2 cms^{-1}) through the channels of the Queen Elizabeth Islands, except in the narrower passage of Penny Strait, where speeds were higher (>5 cms^{-1}). Again, near-surface currents in the waterways adjoining Parry Channel were directed into it. Surface currents in eastern M'Clure Strait were weak (<2 cms^{-1} to the east) as was the case in Prince Regent Inlet ($\leq$2 cms^{-1} to the north), although stronger subsurface currents were present in Prince Regent Inlet. These inflows apparently result in a net eastward flow through Lancaster Sound, as suggested by the partial section from Devon Island to Baffin Island, where eastward surface speeds up to 12 cms^{-1} were observed.

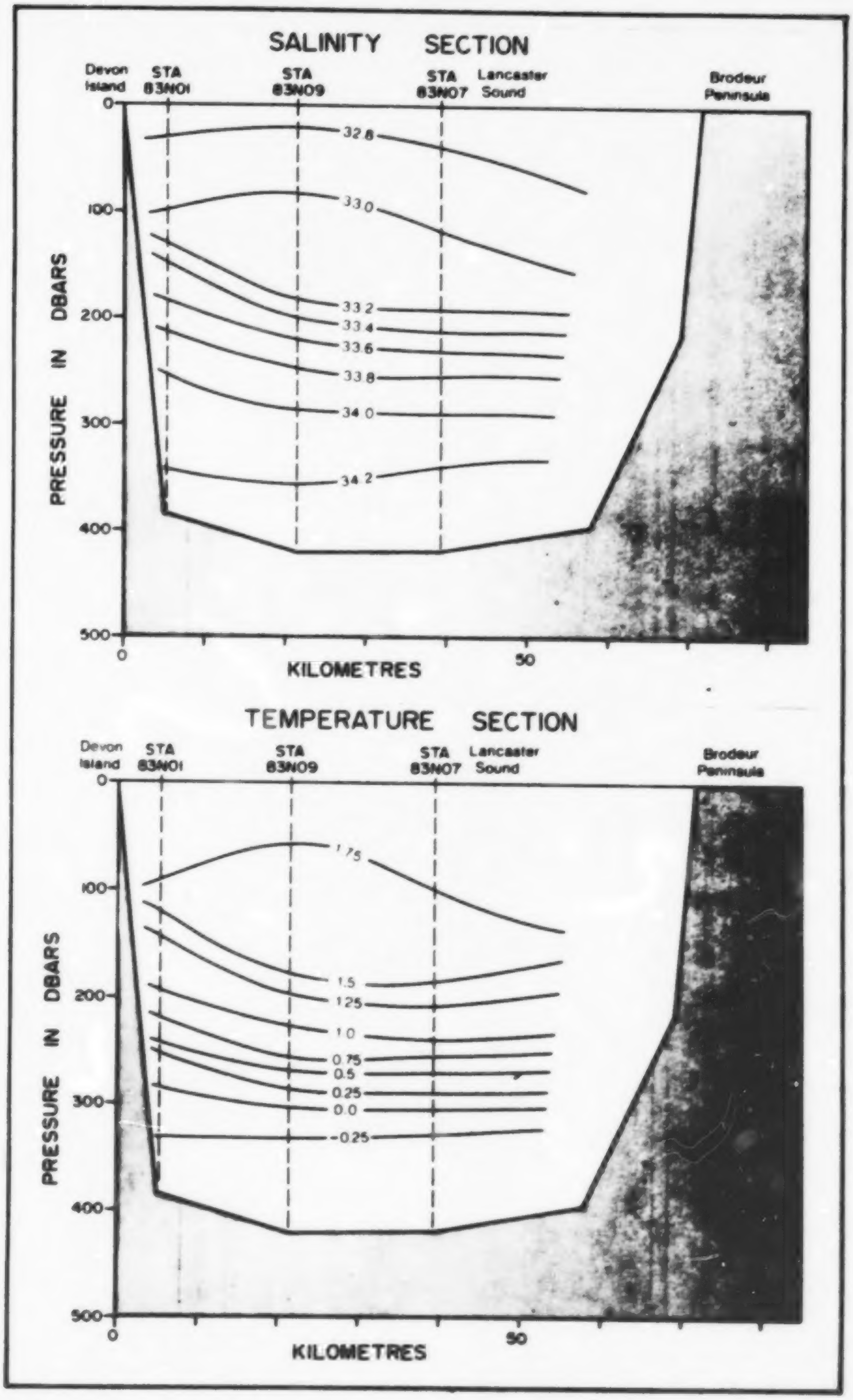
The near-surface geostrophic flow over the Arctic Ocean continental shelf was uniformly southwestward and weak (<2 cms^{-1}) except over the continental slope, where speeds of 5 cms^{-1} were measured west of M'Clure Strait.

4.4 SPATIAL VARIATION OF TEMPERATURE-SALINITY PROPERTIES

Surface Layer

Underlying the sea ice within the Arctic Archipelago is a surface mixed layer, characterized by very uniform density and near-freezing temperature. In this study, an increase in sigma-t of 0.040 from the near-surface value at 5 dbar is taken to indicate the base of the surface mixed layer. The water column beneath the mixed layer is characterized by a marked thermocline and halocline at most locations. However, at an appreciable number of stations, temperatures remain uniformly cold (within 0.010C° of the near-surface value) to significantly greater depths while the mixed-layer salinity increases either continuously or in a series of step-like structures. The mixed layer depth, and at those locations where it differs, the depth of uniform temperature, are displayed in Figure 35. Other properties used to characterize the mixed layer are the salinity at 5 dbar pressure (Figure 36) and the deviation from the surface freezing temperature at 5 dbar (Figure 37).

In the areas over and adjacent to the continental shelf (western M'Clure Strait and Prince Gustaf Adolf Sea) along the northwest side of the Archipelago, the surface mixed layer is relatively deep (22 to 50 m) and of low salinity (31.5-32.0). At the only measurement location over the continental slope (E09), the mixed layer was notably shallower (21 m) and less



SALINITY SECTION

TEMPERATURE SECTION

Figure 32: Vertical sections of temperature and salinity through Lancaster Sound. Station locations are shown in Figure 15.

Figure 33: The computed geostrophic shear between adjacent stations in Lancaster Sound. A positive value indicates easterly flow.

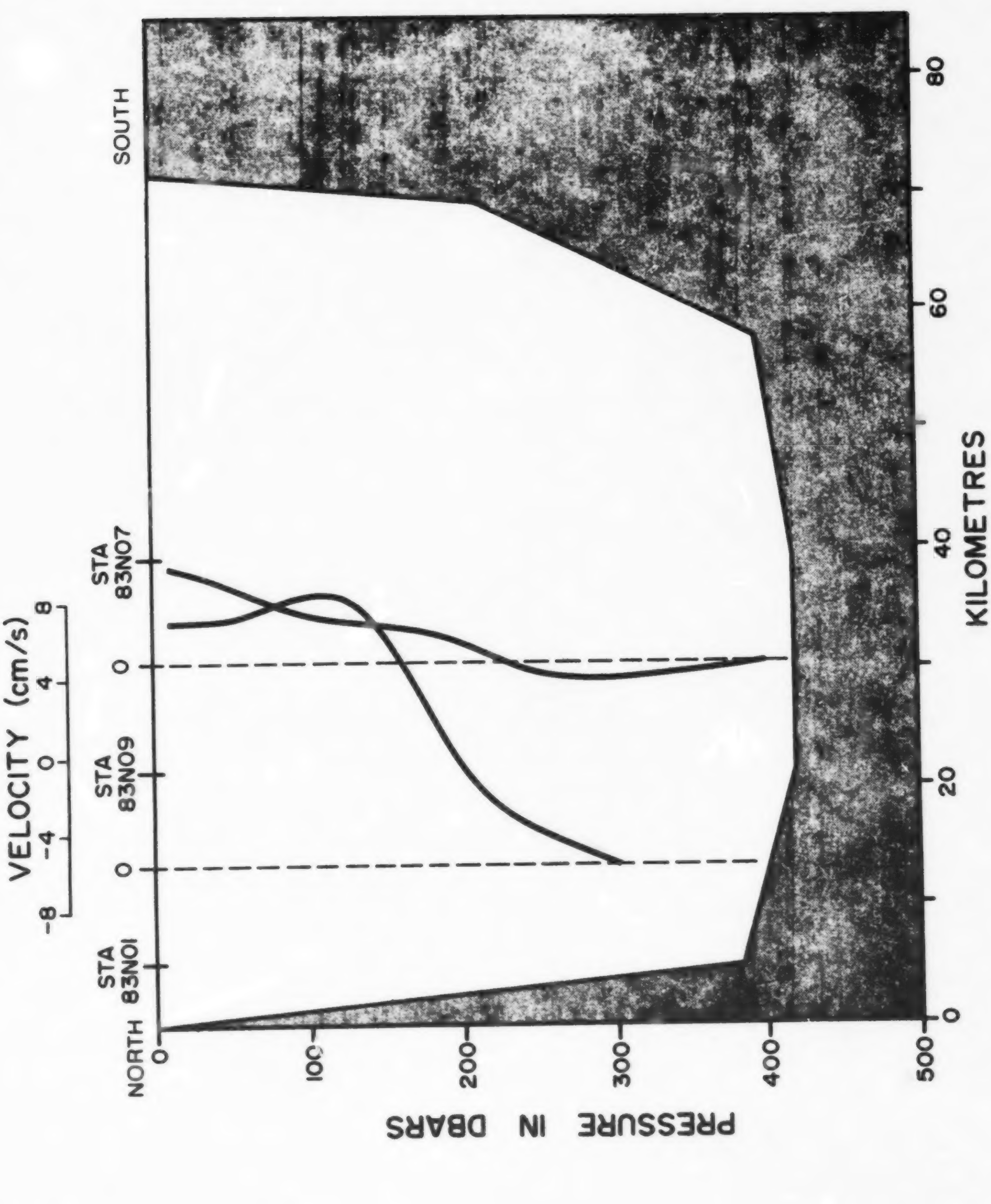

NORTH
SOUTH
STA 83N01
STA 83N09
STA 83N07
VELOCITY (cm/s)
-8
-4
0
4
8
0
0
PRESSURE IN DBARS
0
100
200
300
400
500
KILOMETRES
0
20
40
60
80

Figure 34: The computed geostrophic shear between station pairs at 10 dbar computed relative to the deepest common standard depth, as indicated in the figure.

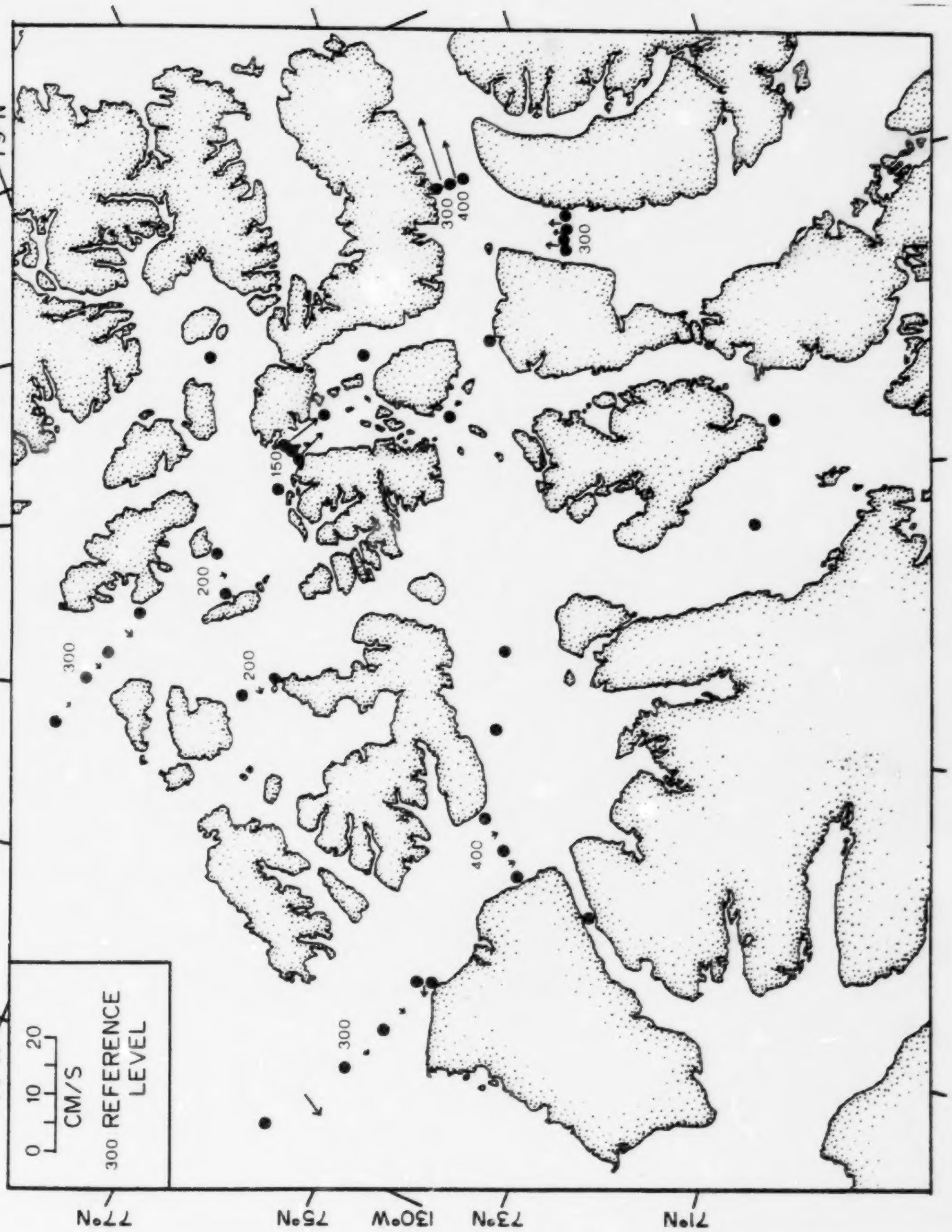
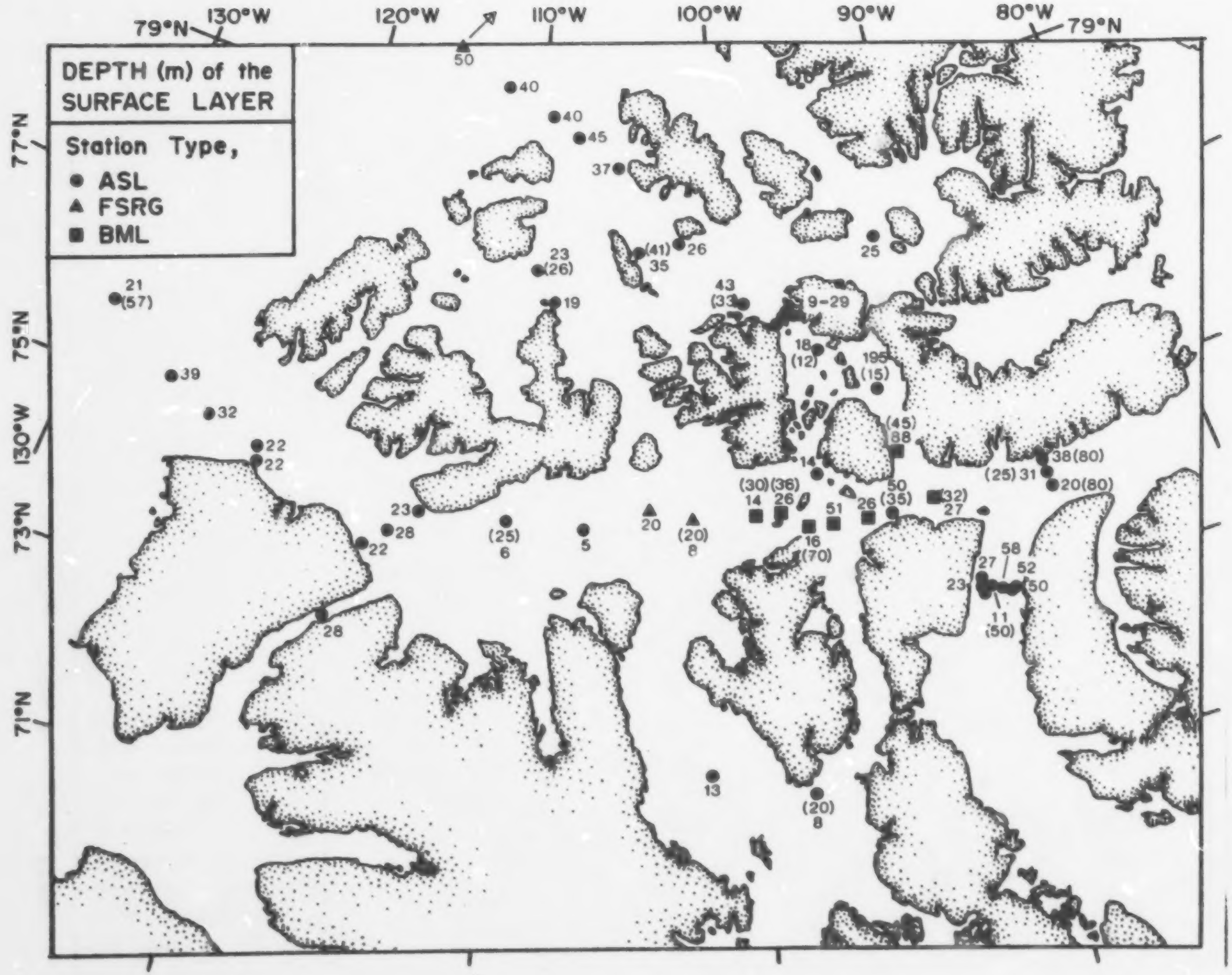

79°N
80°W
90°W
100°W
110°W
120°W
130°W
79°N
77°N
75°N
130°W
73°N
71°N
0 10 20
CM/S
300 REFERENCE LEVEL
300
400
300
150
200
300
200
400
300

Figure 35: The surface layer depth, computed as the depth at which the sigma-t value exceeds the value at 5 dbar by 0.040 and as the depth at which the temperature exceeds the 5 dbar value by 0.010C° (bracketed numbers where these differ from the density-based values).


DEPTH (m) of the SURFACE LAYER
Station Type,
● ASL
▲ FSRG
■ BML
79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
50
40
40
45
37
26
(41) 35
25
23 (26)
19
21 (57)
43 (33)
9-29
18 (12)
195 (15)
39
32
(45) 88
22
22
14
38(80)
(25) 31
20(80)
(30)(36)
14
26
50 (35)
(32) 27
51
26
23
28
22
(25) 6
5
20
(20) 8
16 (70)
58
27
52
23
50
11 (50)
28
13
(20) 8

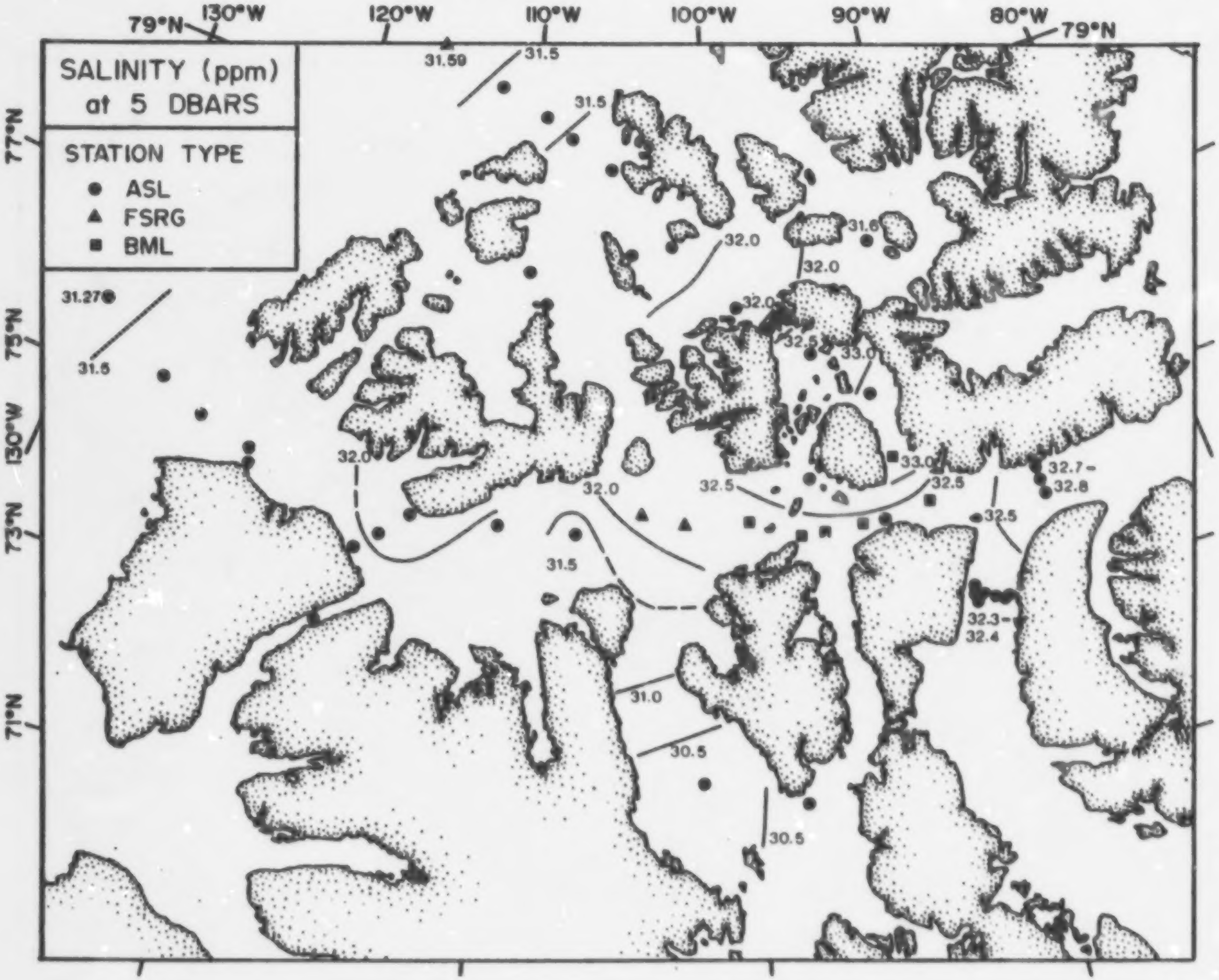

SALINITY (ppm)
at 5 DBARS
STATION TYPE
● ASL
▲ FSRG
■ BML
79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
31.27
31.5
31.59
31.5
31.5
32.0
31.6
32.0
32.0
32.5
33.0
32.0
32.0
32.5
33.0
32.5
32.7-
32.8
32.5
31.5
32.3-
32.4
31.0
30.5
30.5

Figure 36: The salinity at 5 dbar.

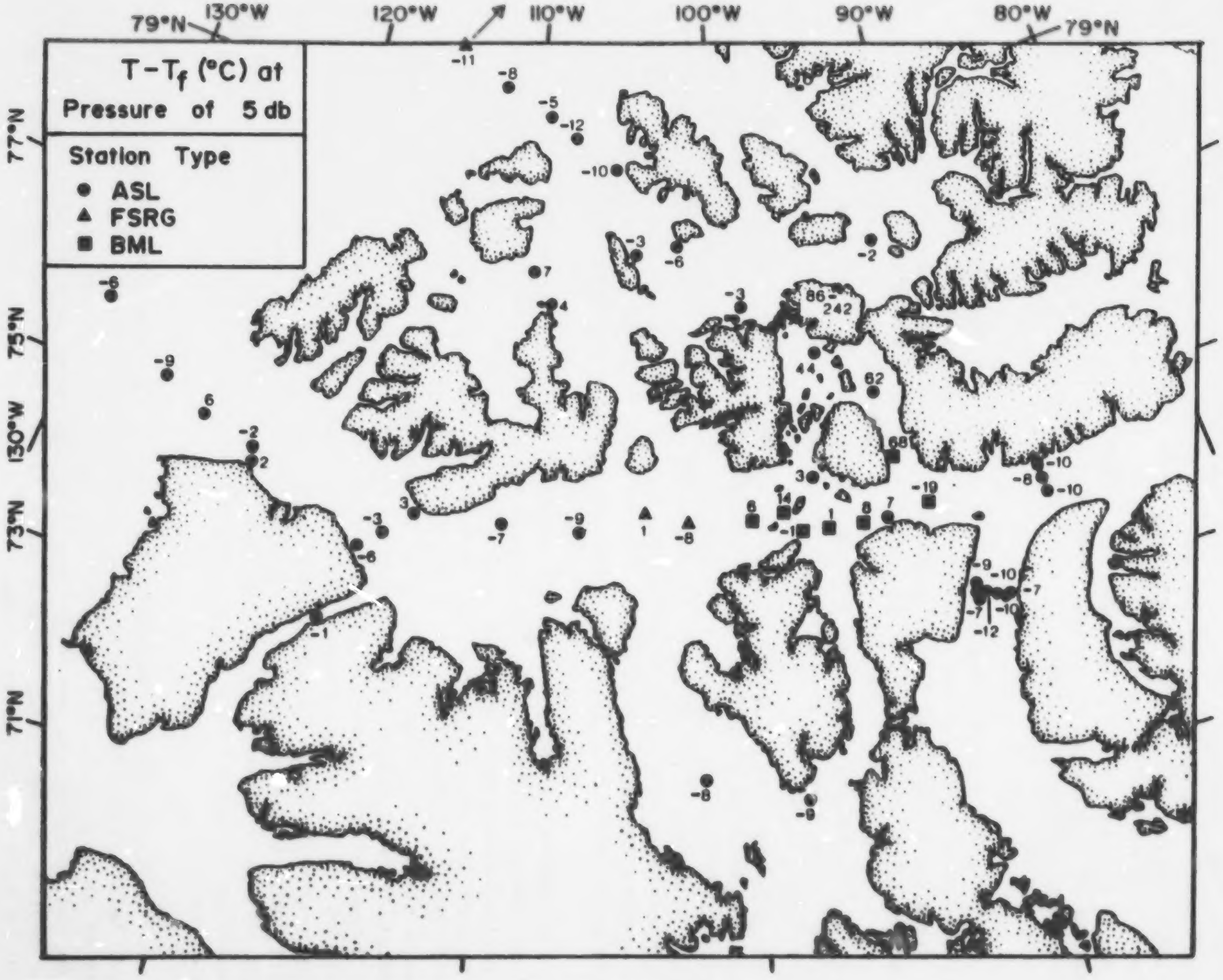

T−T_f (°C) at
Pressure of 5 db
Station Type
● ASL
▲ FSRG
■ BML
79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
-11
-8
-5
-12
-10
-3
-6
-2
7
4
-6
-3
86
242
44
62
68
-9
6
-2
2
3
-3
-6
-7
-9
1
-8
6
14
-1
1
8
7
-19
-10
-8
-10
-9
-10
-7
-7
-10
-12
-1
-8
-9

Figure 37: The deviation of temperature (T) from the surface freezing temperature (T_f) at 5 dbar.

saline (31.27). Beneath the shallower mixed layer at this site, the water column was characterized by weak stratification and near-freezing temperatures extending to 57 m coincident with the upper limit of the main halocline.

Within the waterways of the Archipelago proper, to the north and west of the limiting central sills, the surface layer depth is reduced at most measurement locations (5 to 43 m). Near-surface salinities tend to be somewhat larger (31.5 to 32.3) in this area than those measured at the more westerly and northerly locations. However, in southern M'Clintock Channel, the near-surface salinities are low (30.2 to 30.7) reflecting the greater influence of summer river runoff from the continental mainland. Throughout the western Archipelago, surface layer temperatures are within 0.010°C of the freezing point.

Over the relatively shallow areas of the central Archipelago, the near-surface waters become warmer and more saline. In contrast to other regions, a very pronounced increase in the deviation from the freezing point temperature occurs in this area, particularly in Penny Strait (Figure 37) with values ranging from 0.086 to 0.242C°. Increased near-surface temperatures are also found in Queens and Wellington Channels although the deviations from the freezing point temperature are smaller (0.06 to 0.07C°). In northern Barrow Strait, the surface layer temperature also significantly exceeds the local freezing point value but the differences are further reduced from those of Queens and Wellington Channels. In southern Barrow Strait, the surface layer is characterized by lower salinities which Prinsenberg and Sosnoski (1983) explain as a result of an eastward flow of water from Viscount Melville Sound through the southern portion of Barrow Strait. The lower limit of the surface layer depths is poorly defined at many of the stations within this area, due to the greatly reduced stratification throughout the water column.

The higher salinity and the increased temperature of the surface layer, through these relatively shallow passages in the central Archipelago, are indicative of enhanced vertical mixing bringing heat and salt into the surface layer from the warmer, more saline water below. Given the large deviations from freezing temperature in Penny Strait, the degree of vertical mixing appears to be most vigorous in this area. Comparisons of the near-surface temperatures and salinities at stations A01 to A05 inclusive in Penny Strait, with those at station A08 located 55 km to the northwest and station A06 located 55 km to the southeast, indicate that the area of intense mixing is concentrated in Penny Strait itself particularly on the eastern side of the strait, where the strongest baroclinic flows were computed (Section 4.3). Based on these observations, the horizontal scale of the vertical mixing appears to be relatively small, having values of less than a few tens of kilometres.

To the east of the Barrow Strait sill, in Lancaster Sound and Prince Regent Inlet, the surface layer has near-freezing point temperatures with a range of salinities (32.3 to 32.8) falling between those of the central sill region and those of the north and western regions of the Archipelago. Surface layer depths are variable, ranging from 11 to 50 m across Prince Regent Inlet and 20 to 38 m in Lancaster Sound.

Temperature Maximum and Cold Halocline Layers

Subsurface layers (the subsurface temperature maximum and the cold halocline; see Section 4.1) separate the vertically uniform properties of the surface layer from the simultaneously increasing temperatures and salinities of the main thermocline. The subsurface layers significantly vary in character across the Archipelago (Figure 38).

At most locations to the west and south of the central sills, the subsurface layer consists of, in order of increasing depth: a temperature maximum, a temperature minimum, and a zone of low temperatures which gradually warms with depth (Figure 38a). The temperature minimum and the underlying zone of gradually increasing temperatures constitute the cold halocline layer, widely observed within the Arctic Ocean (Aagaard et al., 1981). Within the Queen Elizabeth Islands clear maxima and minima in subsurface layer temperature are generally not evident (Figure 38b).

At the stations to the east of the central limiting sills, the temperature maximum is greatly reduced in both magnitude of temperatures and range of depths (Figure 38d). Typically a series of small amplitude temperature maxima and minima occur beneath the surface layer. Within these, the temperatures remain within 0.20C° of the surface freezing temperature.

In the shallow central region of the Archipelago, maxima and minima in the subsurface layer are very weak (or nonexistent) and highly variable spatially. In Penny Strait and Queens Channel, neither minima nor maxima of temperature are present; rather the water beneath the surface layer has transition zone characteristics as revealed by nearly linear temperature-salinity curves. Within Barrow Strait and Wellington Channel, very minor temperature maxima and/or minima were present at some of the measurement locations.

To characterize the spatial variability of the subsurface layer within the Archipelago, the value of the temperature maximum itself proved to be a rather poor indicator. Instead, the mean freezing temperature deviation was computed (Figure 39) over pressures ranging from the lower limit of the layer of uniform temperature (at which the temperature exceeds the value at 5 dbar by 0.010C°) to the pressure at a salinity of 33.0. The value of this parameter, based on an integral, is not susceptible to differences in the internal structure of the maximum temperature layer (e.g. a maximum of large amplitude over a narrow range of depths would be more comparable to a maximum of lesser amplitude over a larger depth range). The choice of the limiting pressure on the 33.0 isohaline was based on a visual examination of T-S curves which revealed that this pressure was situated near the onset of the main thermocline and below the temperature maximum, if present. At locations in Penny Strait (A01 and A05) or Queens Channel (A06) where the T-S curves are linear to the surface, the mean freezing temperature deviation is not considered appropriate and therefore not presented in the results.

Mean freezing temperature deviations (Figure 39) are markedly reduced in Prince Regent Inlet and Lancaster Sound (0.05 to 0.11C°) located to the east of the central sills in comparison to the western Archipelago (0.17 to 0.33C°). While these former areas experience more open water conditions (Figures 4-6) and hence a greater absorption of radiant energy during the summer months, heat losses due to surface mixing and ice formation in autumn

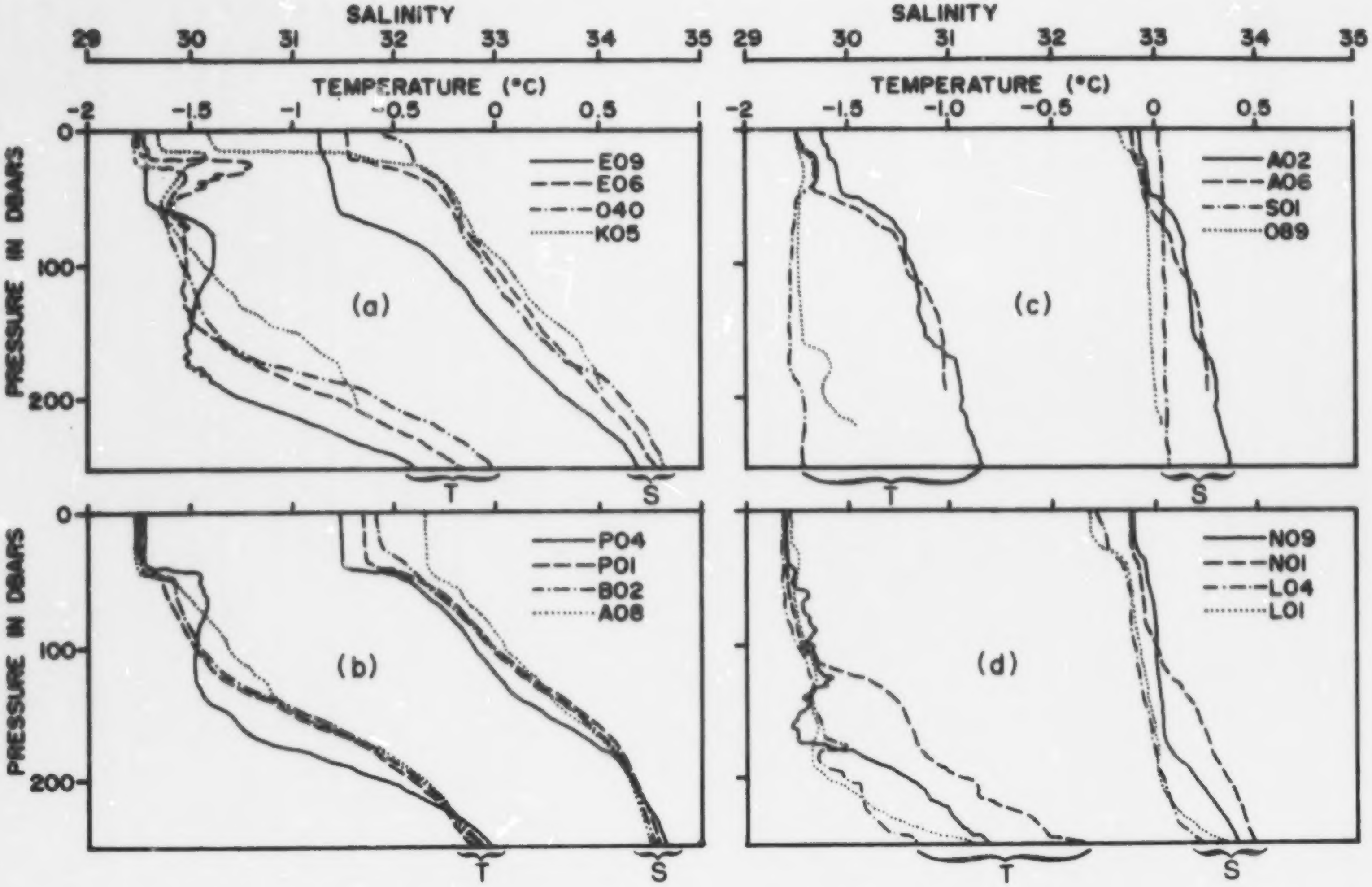


Figure 38: Vertical profiles of temperature and salinity from the surface to 250 dbar. The profiles are grouped by regions of the archipelago: a) west and south, b) north, c) central sills and d) east of sills.

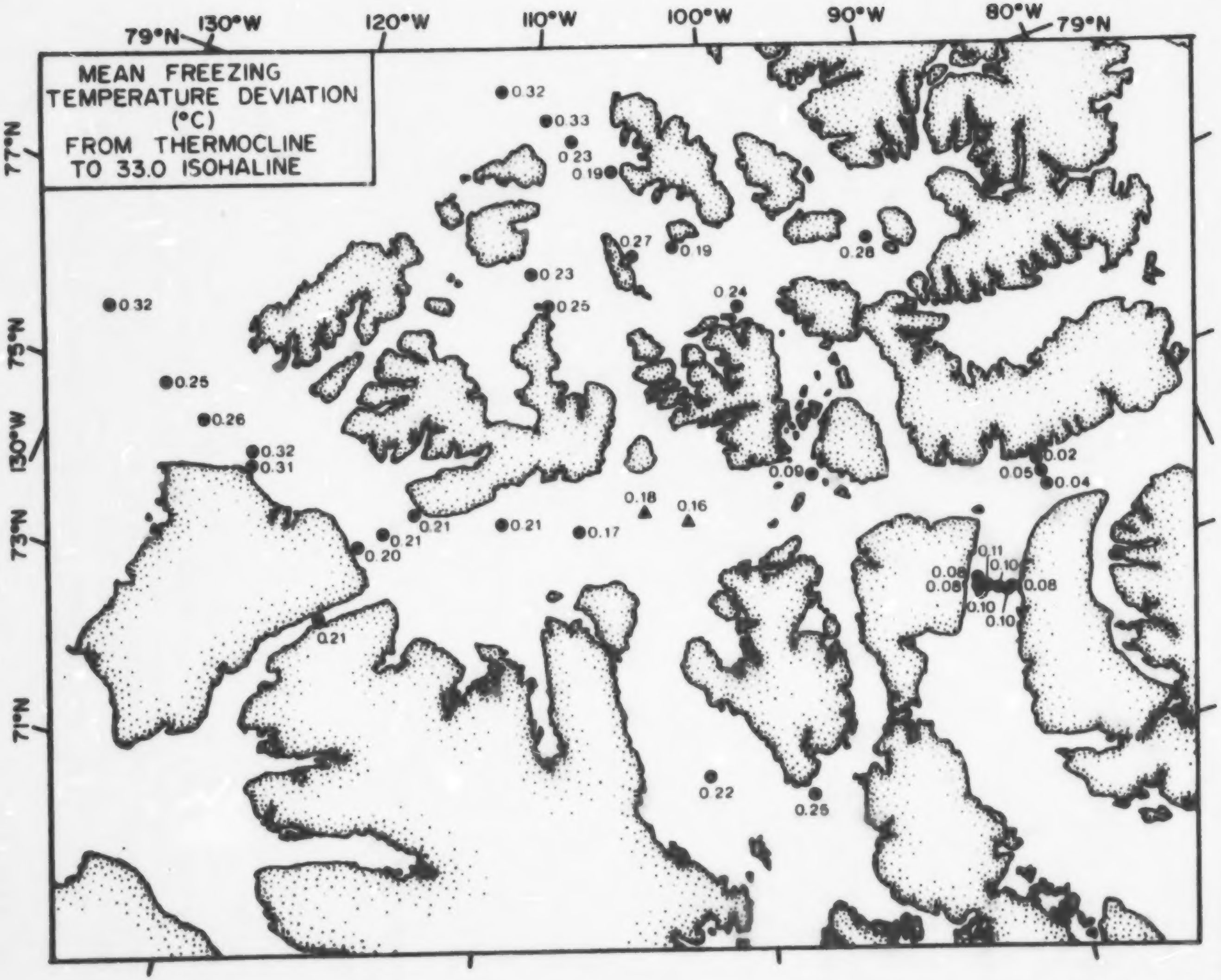

79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
MEAN FREEZING
TEMPERATURE DEVIATION
(°C)
FROM THERMOCLINE
TO 33.0 ISOHALINE
0.32
0.33
0.23
0.19
0.27
0.19
0.28
0.23
0.25
0.24
0.32
0.25
0.26
0.32
0.31
0.09
0.02
0.05
0.04
0.18
0.16
0.21
0.21
0.20
0.21
0.17
0.11
0.10
0.08
0.08
0.08
0.10
0.10
0.21
0.22
0.25

Figure 39: Mean deviation of temperature from the surface freezing temperature between 5 dbar and the pressure at a salinity of 33.0.

and winter are also larger due to the extended time required for ice cover stabilization to occur. In addition, lateral intrusions of cold waters occur at many of these stations (e.g. N09, L02, L04), as indicated by the small-scale (<5 to 25 m) alternating maxima and minima in temperature . These cold water intrusions, most probably originating in areas of northwestern Baffin Bay where (due to thin and unconsolidated sea ice) surface heat losses remain high throughout the winter, could play an important role in accounting for the low mean freezing temperature deviations of the eastern Archipelago.

In the region of the western Archipelago, the largest mean temperature values are found over the continental shelf (0.32, 0.33°C at P04, P03), continental slope (0.32°C at E09) and on the southern side of western M'Clure Strait (0.31, 0.32°C at E06, E55). At the M'Clure Strait locations, the higher values reflect a large amplitude temperature maxima found over a relatively narrow range of depths (20 to 50 m); this feature likely results from a high amount of solar radiation absorbed in the summer off western Banks Island (Figures 4-6). Such radiatively warmed waters are then advected into M'Clure Strait beneath an existing ice cover which limits heat losses in autumn. The origin of the warm water over the continental shelf and slope is less certain. At these locations, the temperature maxima occur at greater depths (in excess of 50 m) and salinities (32.2-32.4), over larger vertical segments of the water column. Possible sources for this subsurface layer include Bering Sea water, summer heating through the leads of the Arctic Ocean pack ice or advection from areas of extended open water during the summer months.

The cold halocline layer occurs on either side of the shallow central region of the Archipelago. The minimum value of the freezing temperature departure occurring within the halocline (and beneath the seasonal thermocline underlying the surface layer) was chosen as a suitable parameter to characterize this layer (Figure 40). At those stations, located away from the shallow central sills of the Archipelago, the minimum freezing temperature departure occurs below the strong halocline underlying the surface mixed layer; where a temperature maximum is present, the minimum freezing temperature departure is found in a distinct temperature minimum between this feature and the main thermocline. At most locations over the central sills of the Archipelago (Penny Strait and Barrow Strait), the minimum freezing temperature departure, is indeterminate because the halocline and thermocline coincide as indicated by the highly linear T-S relation extending to the surface.

Throughout the study area, the minimum freezing temperature departure beneath the surface layer ranges from 0.0°C to 0.325°C. This parameter is generally largest on the Arctic Ocean continental shelf (stations E08, E09, P04, P03), the adjoining waterways of western M'Clure Strait and Prince Gustaf Adolf Sea and in the Sverdrup Basin where it ranges from 0.192 to 0.325C°, with the single exception of station P01 (0.135C°). Minimum temperature values are generally lower in eastern M'Clure Strait (0.114 to 0.171C°), Viscount Melville Sound (0.128 to 0.192C°) and southern M'Clintock Channel (0.137°C to 0.225°C), and further reduced to values of 0.006 to 0.129C° in Wellington Channel, Prince Regent Inlet and Lancaster Sound.

In addition to lower minimum temperatures, near freezing point temperatures occur at significantly greater depths to the east of the central

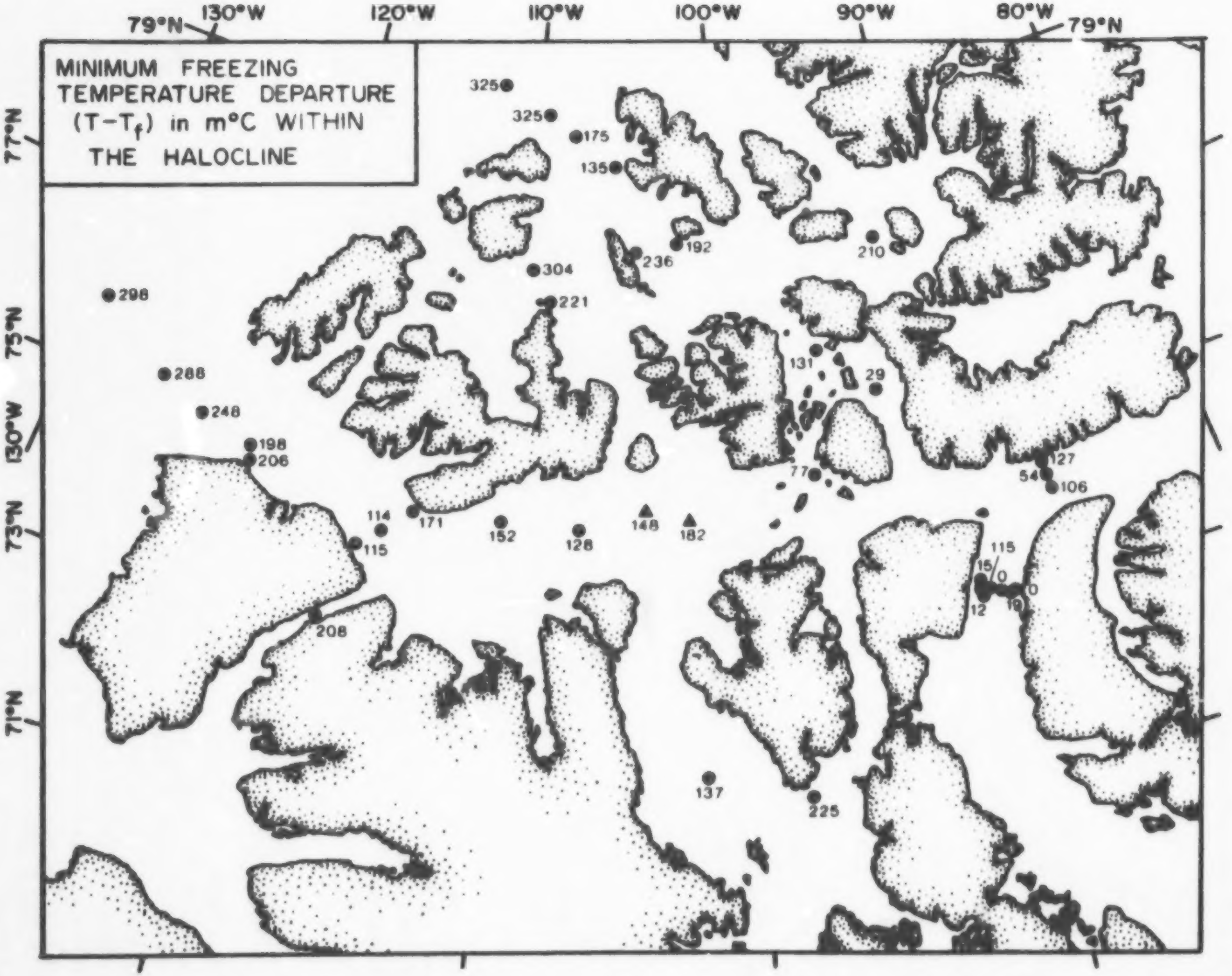

79°N
130°W
120°W
110°W
100°W
90°W
80°W
79°N
77°N
75°N
130°W
73°N
71°N
MINIMUM FREEZING TEMPERATURE DEPARTURE ($T-T_f$) in m°C WITHIN THE HALOCLINE
325
325
175
135
192
236
210
304
221
298
288
248
198
206
131
29
77
127
54
106
114
171
115
152
128
148
182
115
15/0
0
12
10
208
137
225

Figure 40: Minimum deviation of temperature from the surface freezing temperature at depths beneath the halocline underlying the surface layer.

Archipelago sills. The point in the temperature profile (marking the lower limit of the cold halocline) at which the slope increases markedly, occurs at depths of 100 to 155 m in the western Archipelago with corresponding temperature and salinity ranges of -1.51 to -1.12°C and 33.1 to 33.6), respectively. To the east of the limiting sills, the lower limit of the cold halocline ranges from 180 to 260 m in depth, -1.70 to -1.33°C, and 33.0 to 33.3 in salinity. Only at the measurement location on the Arctic Ocean continental slope, station E09, are the cold halocline depths comparable at 180 m (with a temperature of -1.44°C and salinity of 33.39) to those measured east of the central sills.

The cold halocline of the western waterways of the Archipelago appears to originate over the continental slope of the Arctic Ocean where waters of very similar T-S properties are observed but at significantly greater depths (approximately 150-180 m vs. approx 100 m; Figure 38). Within the western Archipelago, the properties of the cold halocline are modified only slightly. Near the bottom of the cold halocline (salinity 33.2), temperature increases as one progresses eastward while the opposite trend occurs at lower salinities (32.5-32.8). This trend towards increasing temperatures at depth likely results from an upward diffusion of heat from below. The trend toward decreasing temperatures in the upper part of the cold halocline may result from ice formation in some of the shallower waterways adjoining western Parry Channel (Byam and Austin Channels, the shallow southern side of Viscount Melville Sound) with the cold, more saline water being advected into the halocline at locations of greater depth.

In the eastern portions of the study area, the lower temperature and greater depth (extending to 180-260 m) of the cold halocline is probably a reflection of a much enhanced rate of ice formation further to the east in the North Water polynya of Baffin Bay. The resulting salinization of surface water could enable descent of near-freezing water to greater depths in this area. Lemon and Fissel (1982) have observed increasing salinities and near-freezing temperatures to maximum depths of 200 to 250 m, over the winter period in northwestern Baffin Bay. The presence of many smaller scale temperature maxima and minima within the cold halocline at locations in Lancaster Sound (particularly stations N07 and N09) and Prince Regent Inlet (stations L01, L02 and L04) indicate that a considerable degree of interleaving of distinctly different water masses is actively occurring. Similar features were observed in the CTD profiles obtained in the spring of 1982 in these same areas (Fissel et al., 1984).

The Main Thermocline

Beneath the cold layer of the halocline, the temperature and salinity both exhibit marked increases with depth, thereby delineating a transition zone from Arctic to Atlantic Waters. The greater part of the temperature transition occurs in this zone, thus justifying its designation as the main thermocline. Thermocline water is found at different depths on either side of the central shallow areas of the Archipelago. To the west, this water is typically found over depths ranging from 130±20 to 278±23 m and salinities from 33.35±0.25 to 34.62±0.04 as determined at the upper limit of the main thermocline and at the 0°C isotherm. On the eastern side of the Archipelago, the thermocline occurs at greater depths, ranging from 220±40 to 321±35 m but with reduced salinities, ranging from 33.15±0.15 to 34.09±0.04.

The temperature-salinity characteristics of the transition zone at selected stations are shown in Figure 41. A progressive warming on isohaline surfaces within the thermocline is evident in the T-S curves with progression from the Arctic Ocean to the vicinity of the shallow central sills of the Archipelago. This warming is most pronounced through the waterways of the Queen Elizabeth Islands (Figure 41b), where the maximum temperature increase of 0.4C° occurs at a salinity near 33.9, with lesser increases at higher and lower salinities (0.29C° at 33.5; 0.15C° at 34.5). Through western Parry Channel, the temperature increases are significantly smaller, particularly at salinities exceeding 33.5. The corresponding temperature increases range from 0.26C° at a salinity of 33.5 to 0.21C° at 33.9 and further decreasing to 0.08C° at 34.5.

To the west of the shallow central sills, the temperature-salinity curves in the transition zone are nearly linear having only a slight degree of positive curvature. A greater degree of curvature is evident in the temperature-salinity curve for station P04 located on the continental shelf north of the Queen Elizabeth Islands, than for the corresponding stations, E09 and E07,located over the continental slope and shelf off M'Clure Strait. The increased curvature of the T-S curves observed over the northwestern continental shelf (Figure 42) is similar in character to that observed in the deeper offshore waters of the Arctic Ocean both to the north of the Archipelago and at offshore locations in the Beaufort Sea. The lower minimum temperatures and enhanced linearity of the T-S curves off M'Clure Strait (and in the southeastern Beaufort Sea) reflect the influence of the penetration of near-freezing surface waters deep into the halocline in these area (Melling and Lewis, 1982). The contrasting T-S curves obtained over the northwestern shelf (station P04) and further northeast over the Alpha Range (station L03) likely are indicative of the absence of such surface water penetration in these areas.

Figures 43a-b present a more detailed mapping of temperature on two isohaline surface, 33.5 and 33.9. Neither surfaces are continuous through the shallow waterways of Barrow Strait and Wellington Channel, where near-bottom salinities are limited to maximum values of 33.4 or less. To the west of the central sills the pressures on these surfaces are smaller (120 to 165 dbar at 33.5; 140 to 195 dbar at 33.9) than is the case to the east of the central sills in Lancaster Sound and Prince Regent Inlet (165 to 270 dbar at 33.5; 230 to 305 at 33.9).

On the 33.5 isohaline surface, the temperature is lower along the southern shore of western M'Clure Strait than either further to the west over the continental shelf or to the east. Melling et al. (1984) found this same pattern in the spring of 1982 (Figure 44). A minimum temperature of -1.40°C, measured at station E06, was attributed to an inflow of cold water from the eastern Beaufort Sea following the southern shore of western Parry Channel. A weaker return flow of warmer waters was deduced for the central and northern half of M'Clure Strait, where the temperature reached -1.25°C near the northern shore. In the spring of 1983, the temperature gradient across eastern M'Clure Strait is smaller by a factor of two, as indicated by the temperature difference of 0.115°C in 1982 and that of 0.052C° in 1983 at stations R11 and R16.

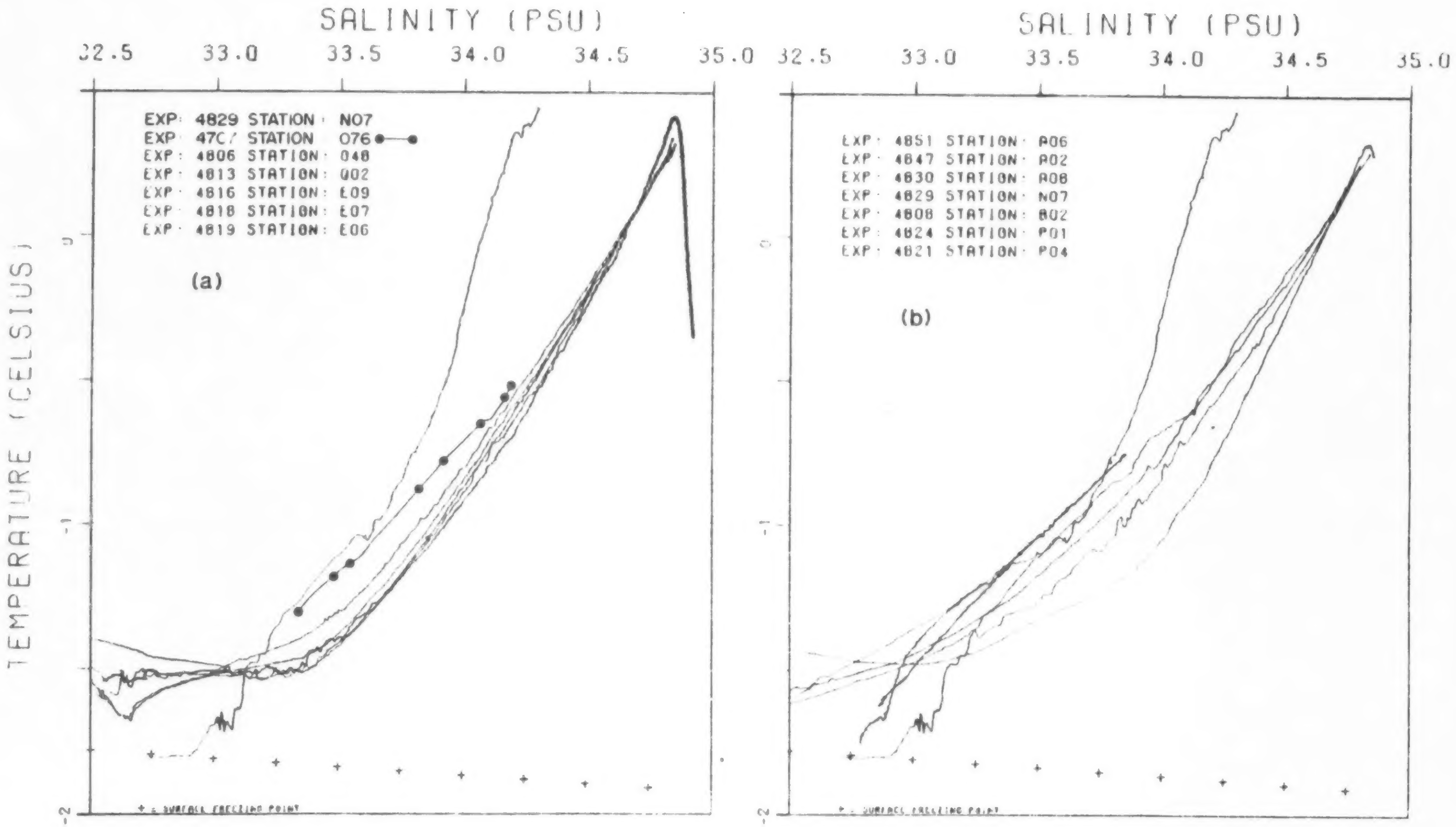


Figure 41: Composite temperature-salinity diagrams for lines of stations extending the Canadian Archipelago: a) through Parry Channel and b) through the Queen Elizabeth Islands to Lancaster Sound. Stations are listed in order of decreasing temperature at a salinity of 33.5.

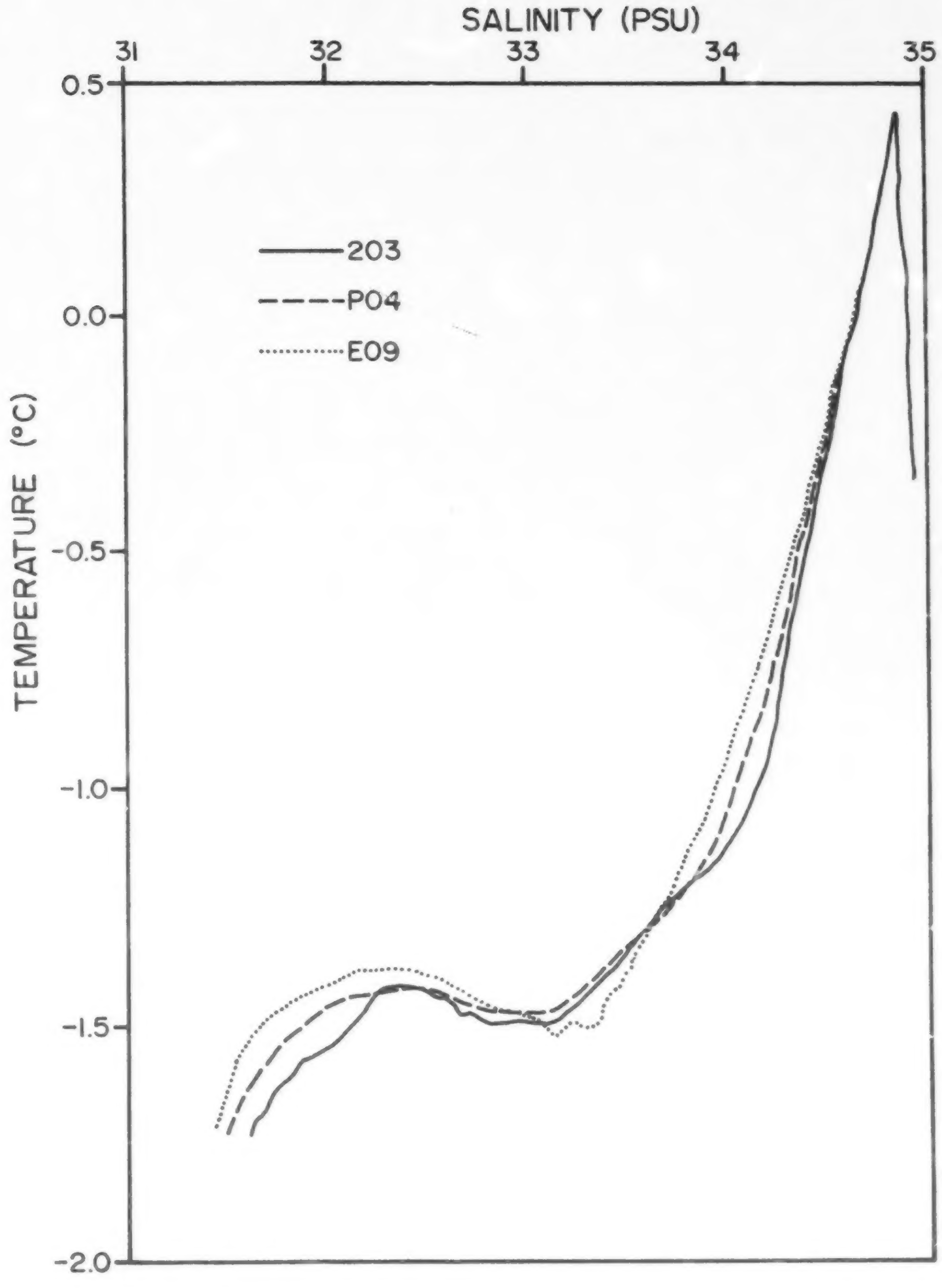


Figure 42: Temperature-salinity diagrams for 1983 stations located over the continental shelf and slope adjoining the northwestern side of the Archipelago. Station 203, located on Alpha Ridge north of Ellesmere Island was occupied on April 13, while stations P04 located off Prince Gustaf Adolf Sea and E09 located off M'Clure Strait, were occupied on March 27 and March 26.

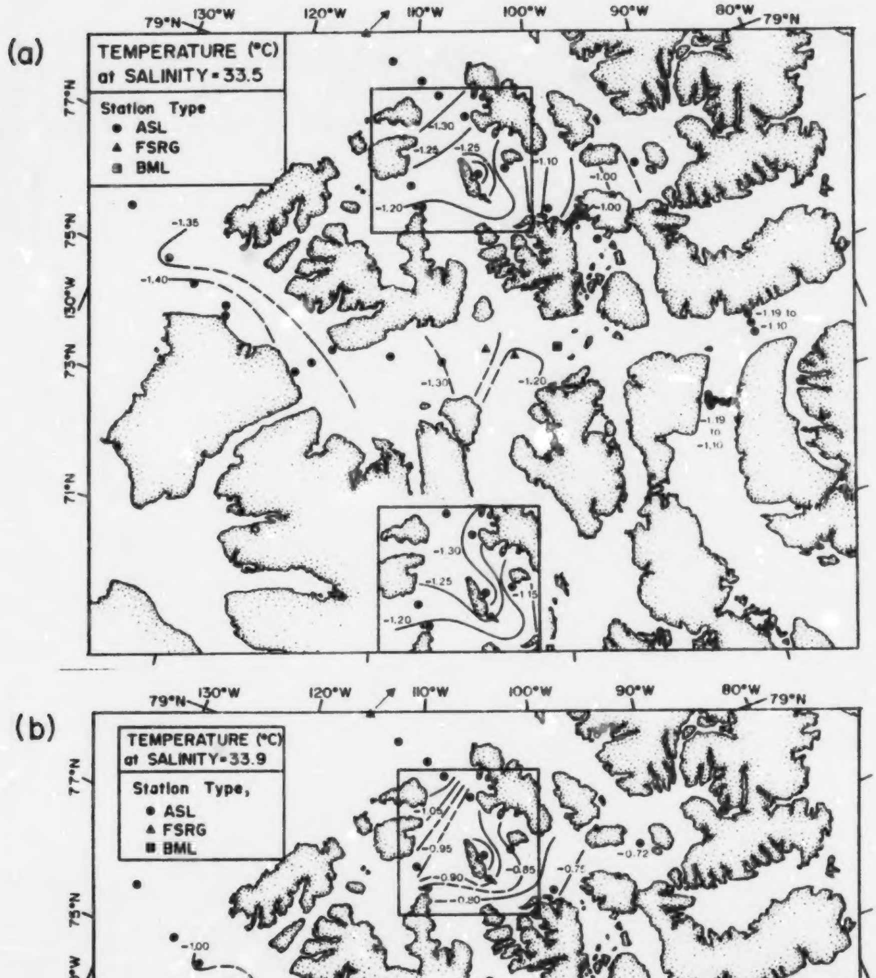

(a)
TEMPERATURE (°C) at SALINITY=33.5
Station Type
● ASL
▲ FSRG
■ BML
79°N
130°W
120°W
110°W
100°W
90°W
80°W
77°N
75°N
73°N
71°N
-1.35
-1.40
-1.30
-1.25
-1.20
-1.10
-1.00
-1.30
-1.20
-1.19 to -1.10
-1.15
(b)
TEMPERATURE (°C) at SALINITY=33.9
Station Type,
● ASL
▲ FSRG
■ BML
-1.00
-1.05
-0.95
-0.90
-0.85
-0.80
-0.75
-0.72
From -0.580 to -0.565
-0.60
From -0.600 to -0.626
-0.95
-0.90
-0.85

Figure 43: Temperature on two isohaline surfaces in the Canadian Archipelago in March-April 1983: a) 33.5 and b) 33.9 both in the main thermocline. The inset shows an alternative interpretation of the contours in the vicinity of Lougheed Island.

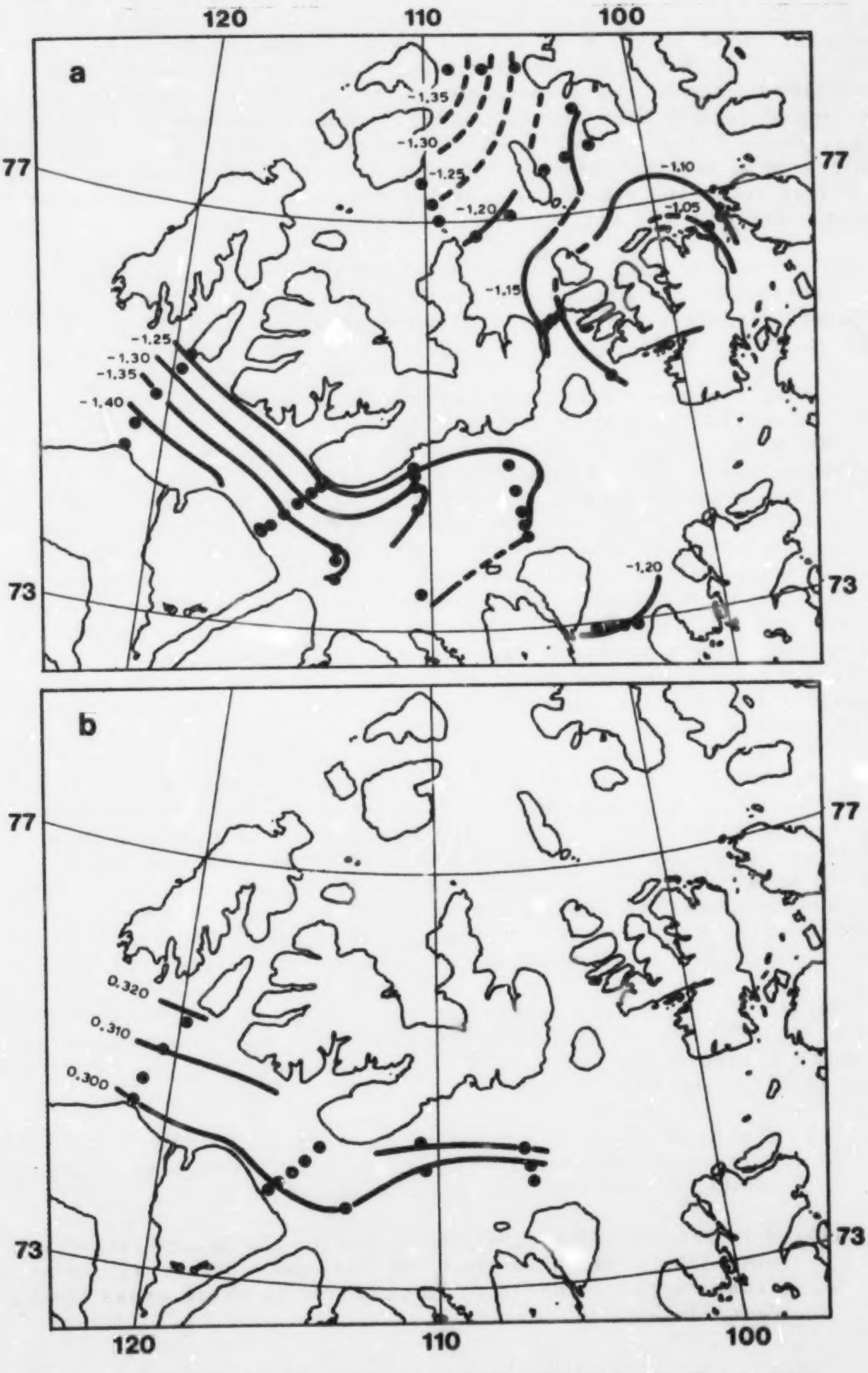

120
110
100
a
77
73
-1.35
-1.30
-1.25
-1.20
-1.15
-1.10
-1.05
-1.25
-1.30
-1.35
-1.40
-1.20
b
0.320
0.310
0.300
77
73
120
110
100

Figure 44: Temperature on two isohaline surfaces in the western Canadian Archipelago in March-April 1982: a) 33.5 in the main thermocline and b) 34.83 in the Atlantic Water.

The influence of the relatively cold water of the eastern Beaufort Sea appears to extend to station E07 located in western M'Clure Strait (temperature of -1.409°C at a salinity of 33.5), but significantly warmer water is present further offshore at station E8 (-1.340°C) near the sill (depth 380 m) across the western end of M'Clure Strait. Further offshore, at station E09 located over the continental slope, temperature at a salinity of 33.5 is again lower, -1.393°C. The higher temperature at station E08 could result from a vertical transfer of heat from the underlying warmer Atlantic Water (see following subsection), and/or from a continuation of the outflow of warmer water from the northern half of M'Clure Strait.

From the 1983 data, the warming of the thermocline water clearly extends into eastern Viscount Melville Sound on both the 33.5 and 33.9 isohaline surface. The highest temperatures were measured at station 076 (-1.160 at 33.5; -0.820 at 33.9).

Within the Queen Elizabeth Islands, temperatures on the 33.5 and 33.9 isohalines are higher by approximately 0.1 to 0.2C°, than in Parry Channel. In terms of the temperature differences within the Archipelago, however, the continental shelf temperatures differ by little: at a salinity of 33.5, the temperature at station P04 is 0.019C° greater than that of station E08, while for a salinity of 33.9, the P04 temperature is 0.013° less than that of station E08. The temperature difference between these two areas appears to be a consequence of the greater east-west gradients within the Queen Elizabeth Islands than those within western Parry Channel. Overall, the along-stream gradient of the former area is larger by a factor of two on the 33.5 isohaline and by nearly a factor of four on the 33.9 isohaline. The horizontal gradients are not uniform along a transect, however. A large increase in temperature occurs between stations P02 and P01 in the entrance to Prince Gustaf Adolf Sea on the 33.9 isohaline and in the northern approaches to Penny Strait on the 33.5 isohaline. Immediately to the east of Lougheed Island the relatively low temperature measured on both could be interpreted as either (1) a local area having anomalously cold water in the main thermocline or (2) a large scale intrusion of cold water on either side of Lougheed Island, originating in western Prince Gustaf Adolf Sea (see inset in Figure 43). Data from the spring 1982 (Fissel et al., 1984) and the spring of 1979 (Peck, 1980) have been combined to illustrate similar temperature ranges and spatial patterns on the 33.5 isohaline surface (Figure 44) and on the 33.9 isohaline surface (not shown) in these areas to the south of the 1983 station P01.

The larger horizontal temperature gradient (from the Arctic Ocean to the central sills of the Archipelago) determined for the waterways of the Queen Elizabeth Islands than for western Parry Channel could be explained in a number of different ways:

i) the mean advection rate is lower through the Queen Elizabeth Islands (Section 4.3; Fissel et al., 1984) permitting a great uptake of heat from the Atlantic Water;

ii) more intense vertical mixing occurs in the Queen Elizabeth Islands, most likely in the vicinity of Desbarats Strait and Penny Strait. Tidal currents appear to be enhanced in these areas (Peck, 1977; Peck, 1980b);

iii) the loss of heat to layers overlying the thermocline, and ultimately to the atmosphere, is reduced in the Queen Elizabeth Islands because of the more extensive ice cover;

iv) the value of $\partial^2T/\partial z^2$, a factor in the advective-diffusive heat balance (Melling et al., 1984), is larger in the Queen Elizabeth Islands.

Adoption or rejection of these explanations require additional investigation and, in some cases, more data.

To the east of the central shallow areas of the Archipelago, the T-S characteristics of the upper portion of the thermocline (salinities from 33.2 to 33.7) are similar to those of the waters immediately to the west of the central sills (Figure 41). However, exchanges between these two areas cannot be occurring on a continual basis since the observed bottom salinities in the relatively shallow connecting passages (Figures 18 and 19) too low. In Lancaster Sound, the T-S curves within the thermocline are more strongly curved than those in the western Archipelago. A pronounced positive curvature is apparent for salinities of up to 33.8. At greater salinities, the T-S curve becomes nearly linear.

In Lancaster Sound and Prince Regent Inlet, large differences (±0.030C°) in temperature from station to station occur at salinities from 33.6 to 34.1, with smaller differences on surfaces of lower salinity. These differences in T-S characteristics do not exhibit spatially coherent patterns as in the western Archipelago; instead they have small spatial scales, both in the horizontal and the vertical. In the vertical, small scale features occur over lengths ranging from a few metres to 20 m. In the horizontal, differences on most isohaline surfaces between adjoining stations are as large or larger than those between stations on either side of Prince Regent Inlet, or between stations in Lancaster Sound and Prince Regent Inlet.

Atlantic Water

In the western Archipelago, the T-S characteristics of Atlantic Waters with salinities of 34.70 or less vary spatially in the same manner as those of waters in the main thermocline (a progressive warming occurring on constant salinity surfaces). However, near the temperature maximum of the Atlantic Water, the horizontal gradients change markedly, as indicated by the T-S curves (Figure 45) for salinities of 34.77 to 34.87 and by the temperatures on constant salinity surfaces within this range (Figure 46).

The waters over the continental slope are significantly warmer than those within the Archipelago. At a salinity of 34.83 (depths of 379 to 458 m), the temperature at continental slope stations E09 and 203 were 0.413 and 0.357°C respectively, compared to a range of 0.293 to 0.333 in the Archipelago and over the adjoining continental shelf (Figure 46). As suggested by Melling et al. (1984) the opposite signs of the spatial gradient in temperature between the waters of the continental slope and the Archipelago (within the Atlantic and Arctic Water masses) suggests that an upward transfer of heat occurs from the Atlantic Water to the Arctic Water.

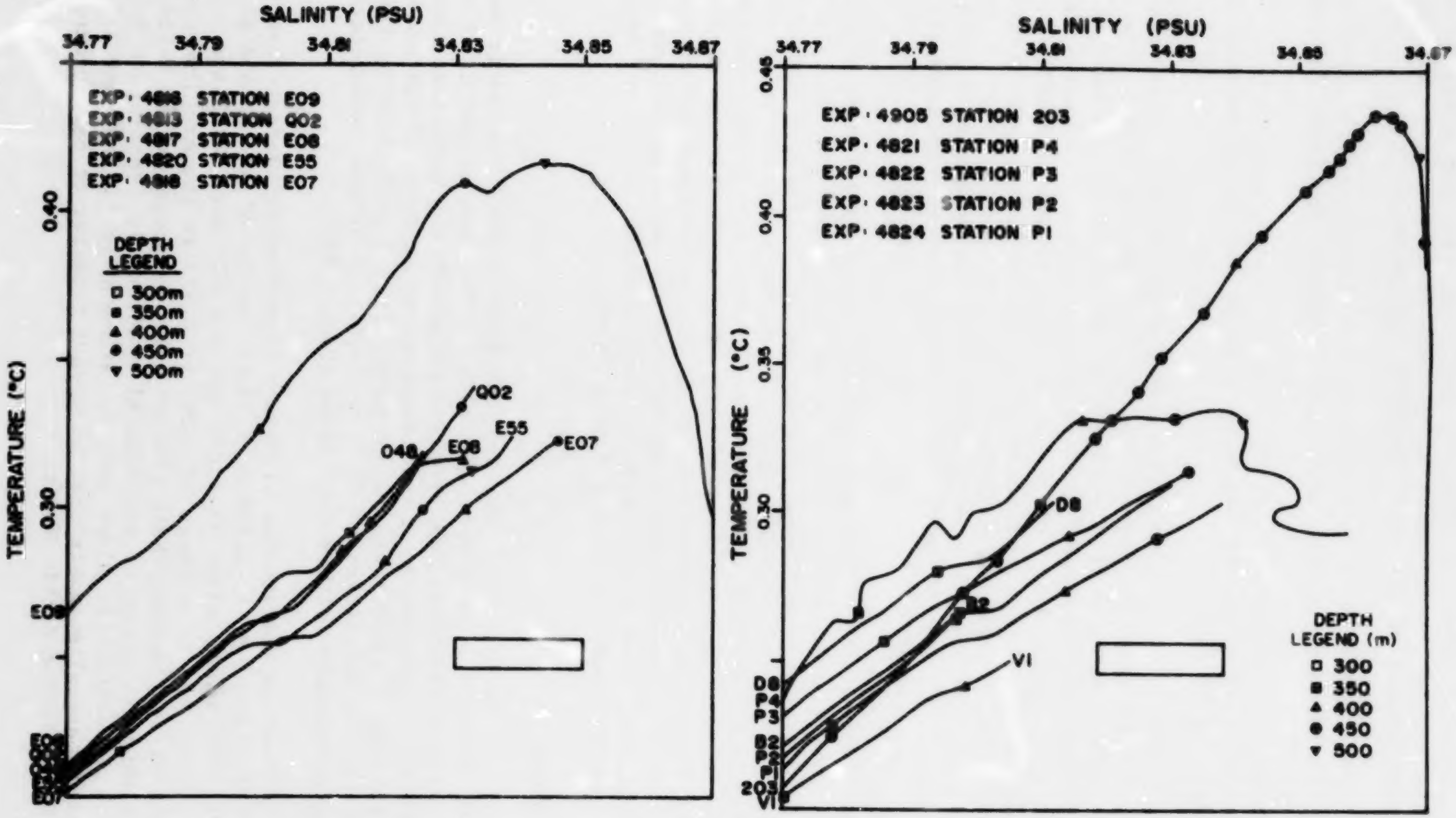


Figure 45: Temperature-salinity characteristics of the deep waters in a) western Parry Channel and the adjoining continental shelf and slope; and b) the Queen Elizabeth Islands and the adjoining continental shelf. The rectangle represents observational accuracy. The occurrence of abrupt horizontal shifts in some of the profiles (e.g. E08 at 34.807 and 34.816) is believed to be a consequence of a change in the suppression word representing conductivity ratio in the CTD probe.

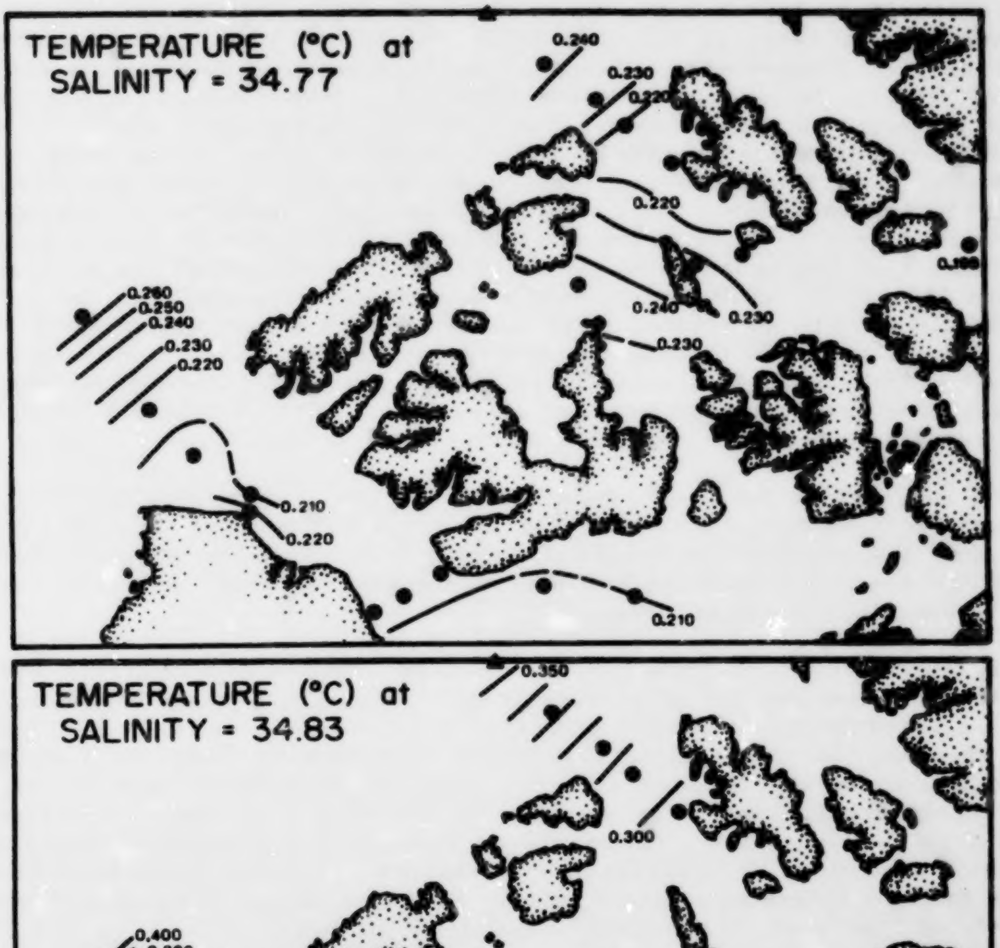

TEMPERATURE (°C) at
SALINITY = 34.77
0.240
0.230
0.220
0.220
0.190
0.240
0.230
0.230
0.260
0.250
0.240
0.230
0.220
0.210
0.220
0.210
TEMPERATURE (°C) at
SALINITY = 34.83
0.350
0.300
0.400
0.380
0.360
0.340
0.390
0.370
0.350
0.320
0.310
0.300
0.330
0.320

Figure 46: Temperature on two Atlantic layer isohaline surfaces in the western Canadian Archipelago in March-April 1983: a) 34.77 and b) 34.83.

Horizontal gradients in Atlantic Water temperature within the western part of the Archipelago are small in comparison with the gradients found over the continental slope and the outer shelf waters. Within western Parry Channel, the differences are comparable to or less than the measurement uncertainties (Figure 45a). Temperatures increase from west to east within M'Clure Strait. In Viscount Melville Sound, this weak gradient on the 33.83 salinity surface is apparently reversed. Within Prince Gustaf Adolf Sea and the adjoining continental shelf, the horizontal gradient is larger in amplitude, relatively constant and of opposite sign to the gradient in overlying Arctic Water. Due to sills within the waterways of the Queen Elizabeth Islands, penetration of 34.83 salinity water is very limited. Examination of temperatures on the 34.77 isohaline (Figure 46) at pressures between 287 and 403 dbar reveals that the progressive cooling also occurs at this level over the continental shelf and through the Prince Gustaf Adolf Sea. With further penetration into the Archipelago to the vicinity of Lougheed Island, temperatures on the 33.77 isohaline apparently increase slightly. However, the gradients are smaller in amplitude, with measured differences being comparable to the experimental uncertainty.

Of interest on the 34.77 isohaline is the low temperature (0.199°C) at station V01 in Norwegian Bay, which is separated bathymetrically (sill depth less than 100 m) from the Lougheed Island area. The low Atlantic Water temperature at this location reflects the opposite trend of Arctic Water temperatures in this region (Figure 43).

To the east of the central Archipelago, Baffin Bay Atlantic Water occupies the lower portion of western Lancaster Sound and Prince Regent Inlet. Maximum temperatures of 0.45°C are attained at salinities of 34.30 (Figure 47). The range in temperatures amounts to approximately 0.09C° on isohaline surfaces, considerably greater than the range of temperature differences in the western Archipelago. For example, on the 34.20 surface, temperatures range from 0.27 to 0.36°C. Comparisons among the T-S curves (Figure 47) suggest a wide range of temperatures in western Lancaster Sound with lower values on the northern side of the sound. In Prince Regent Inlet temperatures are reduced from those of Lancaster Sound by about 0.05C°.

4.5 SHORT-TERM VARIABILITY OF TEMPERATURE AND SALINITY

Station A02 (first visited on March 29) was revisited April 4, and a time series of seven profiles was collected over 3.5 hours, one profile being taken every 30 minutes. The individual profiles and T-S plots are in Appendix 1 (experiments 4844-4850). Figure 48 shows contour plots of temperature and salinity against time. Vertical isopleth excursions of up to 25 m over half an hour are apparent in both the temperature and salinity. They appear to be most pronounced between 150 and 200 m depths. There is, however, little net displacement of isopleths over the full length of the time series. Inspection of the T-S plots reveals only minor changes in the T-S curves (Appendix 2). The vertical displacements of isopleths are indicative of internal wave activity in Penny Strait. These variations cause appreciable changes in the dynamic height anomaly (DHA). The standard deviation of DHA at 200 m relative to the surface for the seven successive casts was 0.0033 dyn. m. For two stations separated by 10 km experiencing this level of variations of DHA, the

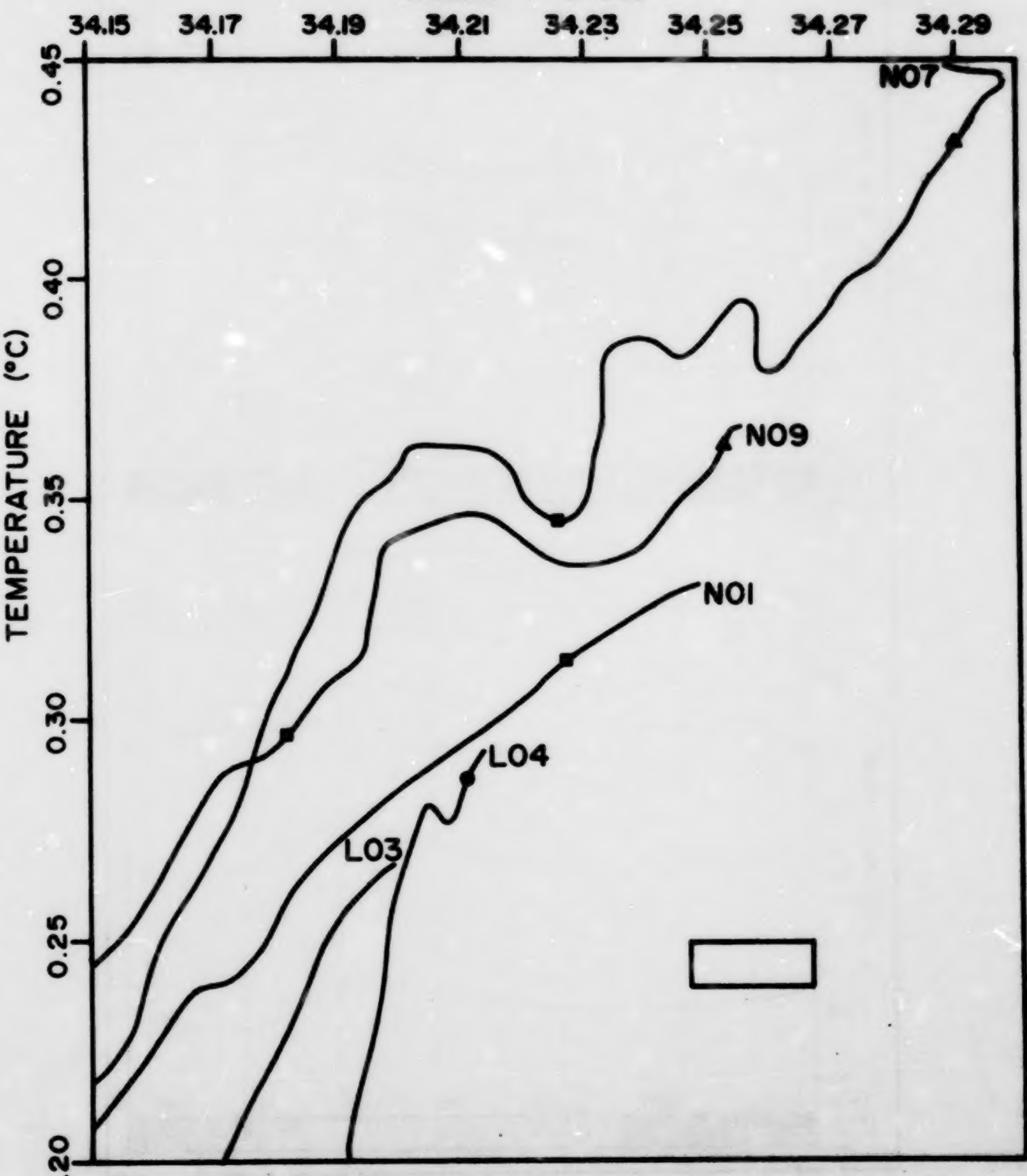


Figure 47: Temperature-salinity characteristics of the deep waters in Lancaster Sound (N01, N07 and N09) and Prince Regent Inlet (L03, L04). The rectangle represents observational uncertainty.

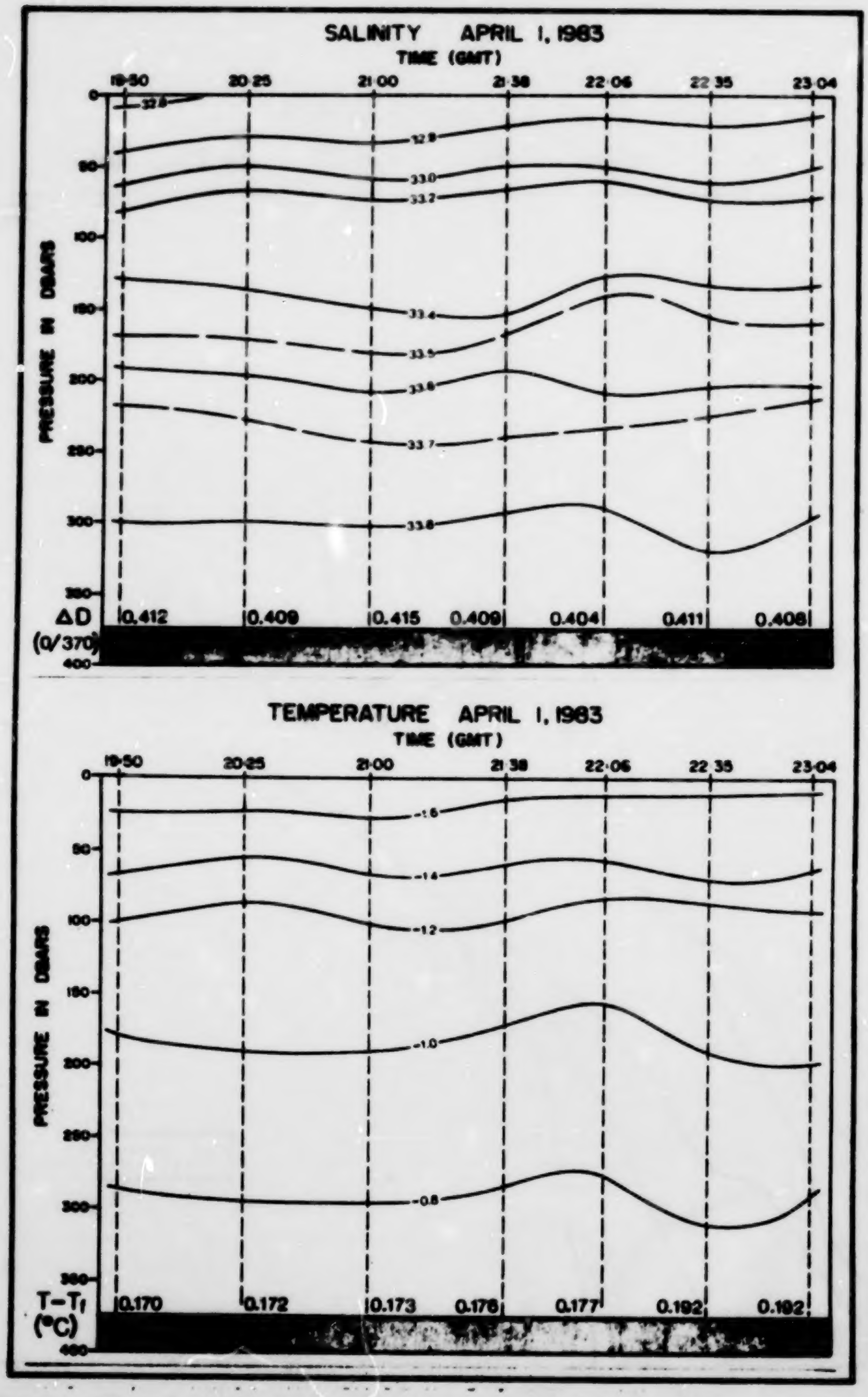


Figure 48: Contours of temperature and salinity from repeated CTD profiles at station A02, 1950 to 2304 GMT April 1, 1983. Also shown are the freezing temperature deviation at 5 dbar and the dynamic height anomaly at 5 dbar relative to 370 dbar for each CTD profile.

standard deviation of the baroclinic shear from 0 to 200 m would be 3.1 cm/s amounting to as much as one-half of the computed baroclinic shears for Penny Strait (Section 4.3).

The detailed structure of the salinity and temperature profiles undergoes changes from one profile to the next. The variations are confined to three sections of the water column where steepened gradients in temperature and salinity exist. An example is shown in Figure 49 where changes occur from step-like to relatively smooth profiles. The steps range in size from 5 to 20 m in thickness and up to 0.15°C and 0.15 in temperature and salinity, respectively. The steep-gradient zones in which the changes are observed are located between 50 and 100 m, 150 to 225 m and 275 to 300 m depth (the location of the middle zone does change by up to 20 m). The variations are greatest in the upper zone and least in the deep zone. Since it is generally not possible to track specific features from one profile to the next, the time scale of the variations is less than 30 minutes. Such small-scale variability is likely indicative of the occurrence of significant mixing in Penny Strait.

Station L02 in Prince Regent Inlet was occupied on March 28 and re-occupied on March 30 and may thus provide an indication of variations over larger periods. Since the two casts are separated by 7.5 km however, differences between them may be caused as much by spatial as temporal variations. The greatest difference occurs below 250 m, where both temperatures and salinities were lower during the first occupation than during the second. At 300 m the temperatures and salinities were -0.430°C and 33.94 on March 28, and 0.032°C and 34.10 on March 30.

4.6 YEAR-TO-YEAR VARIABILITY

Western Parry Channel

The description of year-to-year variability in this region is derived from comparisons between 7 CTD profiles obtained in March and April 1983 during the present study and profiles obtained at nearby locations one year earlier (Fissel et al., 1983). These stations and the distance separating the 1983 locations from those of 1982 are provided in Table 6, along with comparative values for salinity at 5 dbar, mean deviation of temperature from the freezing point from the base of the surface layer of uniform temperature to the 33.0 isohaline, the minimum of deviation from the freezing point temperature below the mixed layer, and temperatures on the 33.5, 33.9 and 34.83 isohalines.

At most locations the surface layer was shallower and less saline in 1983 than in the previous year. In contrast, the temperature maximum layer had larger temperatures and greater thickness. These differences were most prominent at the two stations, E06 and R11, on the southern side of M'Clure Strait. At both stations, the depth of the surface layer was also reduced by nearly a factor of 2 from 48±5 m to 22±1 m. Salinities at 5 dbar were lower by 0.73 at both station E06 (from 32.28) and station R11 (from 32.54), while the value of the maximum temperature increased by 0.42°C from -1.605 and by 0.16°C from -1.727. (At station R11, the mean freezing temperature deviation differs little between 1982 and 1983, due to the much reduced mixed layer depth and reduced minimum temperature deviation of 1983.) At the other two stations in eastern M'Clure Strait (Q02 and R11), similar differences were apparent but with reduced magnitudes. In Prince of Wales Strait, the salinity

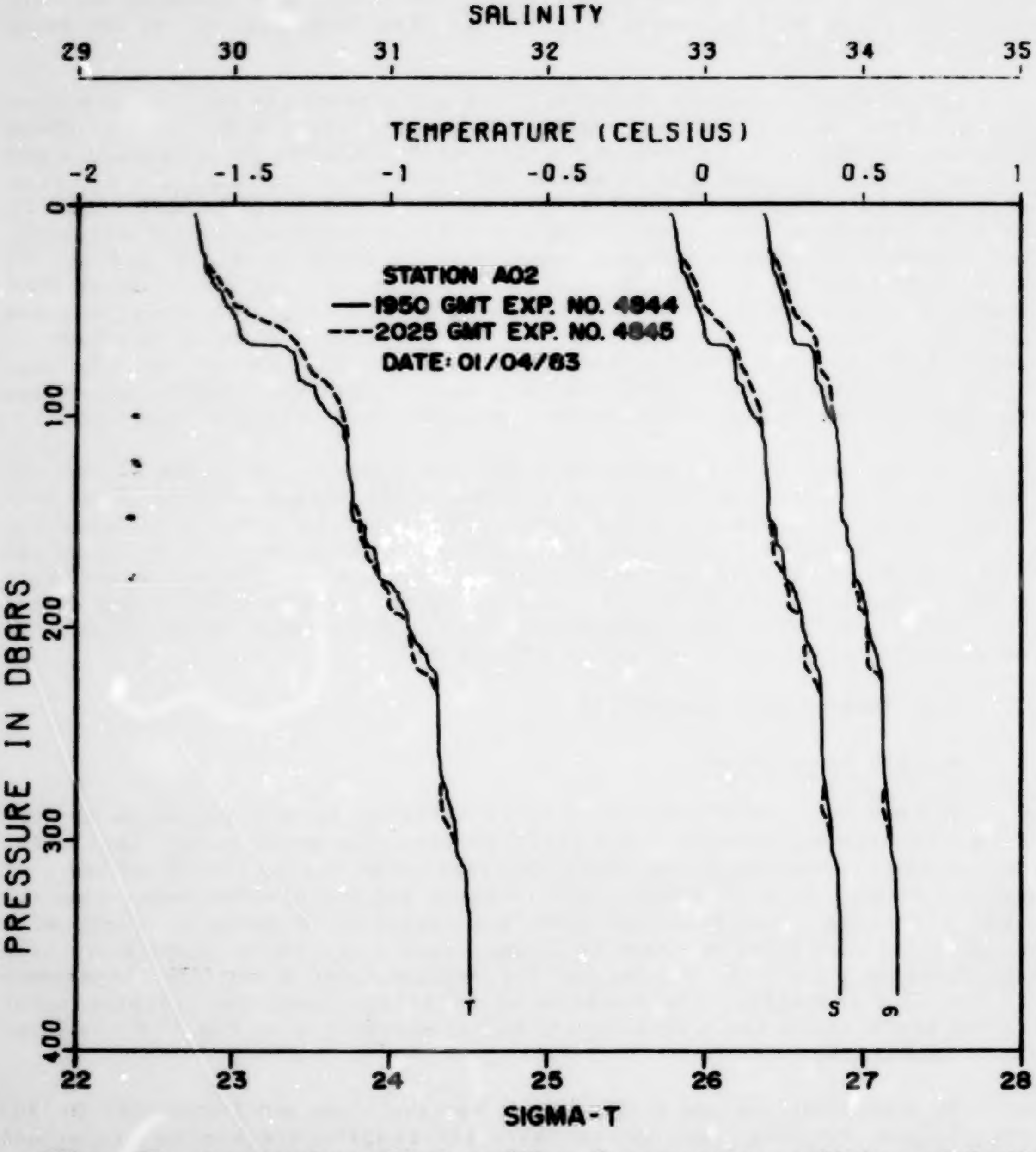


Figure 49: A comparison of two profiles of temperature, salinity and density at station A02, measured at 1950 (solid line) and 2025 (dashed line) on April 1, 1983.

Table 6

A comparison of oceanographic conditions for western Parry Channel stations occupied in the spring for both 1983 and 1982. For each quantity, the order of numerical values is the 1983 value, the 1982 value and the change from 1982 to 1983.

Station	N06	R16	Q82	R11	Q84	O40	O48	N83
Distance from '82 Stn	6.2 km E	2.4 km S	12.7 km SW	1.9 km NE	10.5 km NE	10.0 km E	2.6 km SW	1.2 km E
M.L. Depth	22 43 -21	25 19 6	28 41 -13	23 52 -29	28 44 -16	<6 19 -13	6 30 -24	8 22 -14
S at 5 dbar	31.55 32.28 -0.73	32.28 32.40 -0.12	32.16 32.35 -0.19	31.81 32.54 -0.73	31.76 32.38 -0.62	31.92 31.50 0.43	31.55 32.16 -0.61	30.72 30.91 -0.19
Mean Temp. Dev.	0.309 0.179 0.130	0.212 0.111 0.101	0.206 0.186 0.020	0.196 0.200 -0.004	0.213 0.197 0.016	0.207 0.185 0.022	0.172 0.175 -0.003	0.248 0.274 -0.026
Min. Temp. Dev.	0.206 0.157 0.049	0.171 0.133 0.038	0.114 0.147 -0.033	0.115 0.139 -0.024	0.208 0.186 0.022	0.152 0.180 -0.029	0.128 0.067 0.061	0.225 0.236 -0.016
T at 33.50	-1.421 -1.431 0.010	-1.326 -1.257 -0.069	-1.377 -1.307 -0.070	-1.378 -1.361 -0.017	N/A N/A	-1.311 -1.291 -0.020	-1.300 -1.248 -0.052	N/A
T at 33.90	-1.014 -0.998 -0.016	-0.972 -0.887 -0.085	-0.967 -0.928 -0.039	-0.971 -0.982 0.011	N/A N/A	-0.932 -0.922 -0.010	-0.925 -0.913 -0.012	N/A
T at S =	34.830 0.295 -0.301 -0.006	34.803 0.280 0.263 0.017	34.830 0.332 0.303 0.029	34.830 0.325 0.304 0.021	N/A N/A	34.830 0.312 0.310 0.002	34.825 0.318 0.297 0.021	N/A

of the surface layer was reduced by 0.62 from 32.28, as was the thickness of the surface mixed layer. Further to the east in Viscount Melville Sound and southern M'Clintock Channel, the differences between 1983 and 1982 were generally smaller in absolute magnitude and more variable in sign.

At greater depths, differences between the two consecutive years followed a different spatial pattern. In the lower half of the cold halocline and in the upper part of the main thermocline (depths from 140 to 250 m) temperatures decreased between 1982 and 1983 at most stations in eastern M'Clure Strait and Viscount Melville Sound. This temperature decrease was reflected in a deepening of the cold halocline layer. The decrease is somewhat apparent in the comparison of the temperature on the 33.5 isohaline surface in 1983 (Figure 43) and in 1982 (Figure 44). The largest changes, found at stations R16 and Q02, are reductions of up to 0.15C° (Figure 50). Smaller reductions of up to 0.07C° are found at station 048 in Viscount Melville Sound, while at the locations on the southern side of M'Clure Strait and at station 040 in western Viscount Melville Sound, the temperature changes are less than 0.02C°.

In the Atlantic Water, interannual differences in western M'Clure Strait (station E06) between 1983 and 1982 were small and less than the measurement uncertainty (differences of approximately 0.020C° on isohaline surfaces). For salinities of 34.79 or more, temperature differences on isohalines never exceeded 0.007C°. However, further to the east in western Parry Channel, larger differences occurred as can be deduced from a comparison of temperature on the 34.83 isohaline surface in 1983 (Figure 46) with the corresponding values for 1982 (Figure 44). In eastern M'Clure Strait, temperatures were warmer in 1983 by 0.029C° at Q02 and 0.021C° at R11. At station R16 on the northern side of eastern M'Clure Strait, the temperature on the largest common salinity (34.803) was 0.017C° warmer in 1983 than in 1982. In Viscount Melville Sound, the T-S characteristics at station 040 are nearly identical but at the more easterly station 048, temperatures were higher by 0.021C° on the 34.825 surface.

A comparison of year-to-year differences noted for the T-S characteristics suggest a negative correlation between interannual changes in the main thermocline and the Atlantic Water. Locations (R16, Q02, R11, 048) which exhibit temperature decreases in the Arctic Water from 1982 exhibit temperature increases (of approximately one-fifth the magnitude) in the Atlantic Water. At other locations (040, E06) comparatively small differences occurred at both levels. The reduced degree of warming of the thermocline water from west to east in M'Clure Strait in 1983, may be related to less heat uptake from below and thereby the reduced degree of cooling of the Atlantic Water.

Over the continental slope to the west of M'Clure Strait (station E09), Atlantic Water temperatures were higher, by 0.075 to 0.110C°, than the temperatures within western Parry Channel (Figure 45a). Unfortunately, there are no previous oceanographic data collected near E09. Melling et al. (1984) show that on the continental slope of the S.E. Beaufort Sea, temperatures on the 34.83 isohaline surface decreased from west to east in March-April 1981. Based on this result, a cyclonic circulation of Atlantic Water about the basin was inferred. At the 1981 stations nearest to E09, located some 300 km to the south, the temperatures were in the range of 0.325 to 0.350°C, and their pattern of variation suggested little change towards the northwest. The temperatures measured at station E06 in both 1982 and 1983 (0.300°C) are

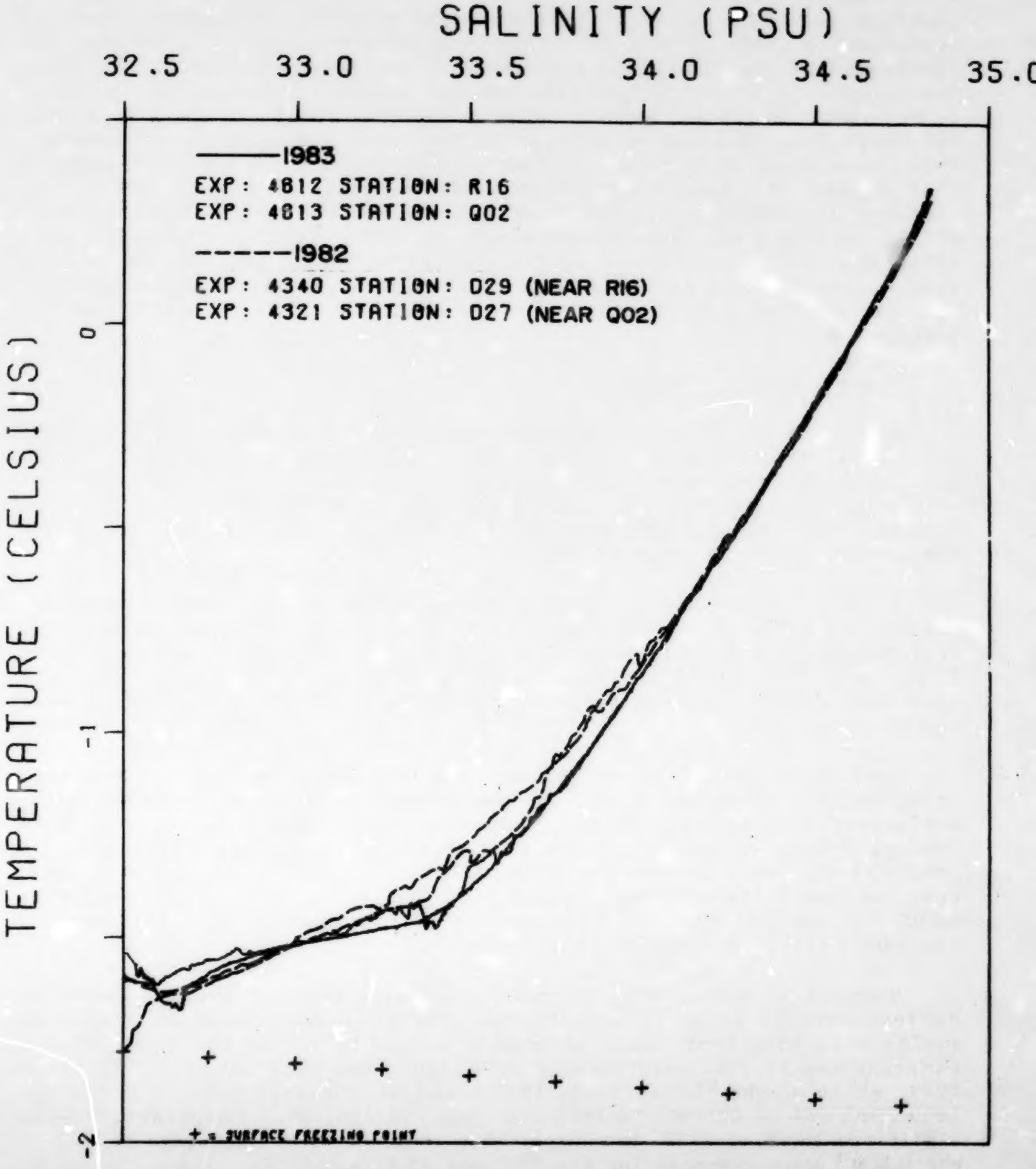


Figure 50: Temperature-salinity diagrams for stations Q02 and R16 in eastern M'Clure Strait obtained in 1982 and 1983. Note the increased temperatures in the main thermocline in 1983 from those of 1982.

consistent with the 1981 data (Melling et al., 1984; Figure 8). However, the much higher temperatures at station E09 (0.408°C at 34.83 salinity), suggest that Atlantic Water reaches this location via a route outside the southern Beaufort Sea. The possibility that large temporal variations occur is considered unlikely in view of earlier bottle cast results obtained over the continental slope off the northern half of Banks Island in 1951 (U.S. Navy Hydrographic Office, 1954) and 1960 (Marine Surveys Division, 1964) as shown in Figure 51, which are consistent with the 1981 results in this same area (although observational uncertainties for these measurements are greater). Thus the observation of notably warmer Atlantic Water at station E09 suggests that the cooler Atlantic Water of the S.E. Beaufort Sea may not be the sole source of Atlantic Waters found on and off the northwestern continental shelf of the Archipelago. Newton and Coachman (1974) infer a direct flow of Atlantic Water to this area from the Chukchi Plateau. Atlantic Water from this source would be expected to have undergone less cooling than Atlantic Water travelling cyclonically along the continental slope in the southern Beaufort Sea.

Queen Elizabeth Islands

For the Queen Elizabeth Islands, comparisons were made with the March-April data obtained in 1982 (Fissel et. al., 1983) and in 1979 (Peck, 1980). For the 1979 data, since information on calibration procedures is not available, there is a greater possibility of systematic differences with the results of the 1982 and 1983 studies. A summary of locations used, and of the comparative values is given in Table 7.

In 1983, the surface layer salinity was reduced at all stations from 1982 (by 0.23 to 0.52) and in 1979 (by 0.24 to 0.75). In 1983, salinities at 5 dbar ranged from 31.41 (D06) to 31.84 (B02). The corresponding ranges were 31.64 to 32.36 in 1982 and were 31.60 to 32.69 in 1979. Along with the decreased salinities, the depth of the surface layer was reduced at most stations (see Table 7).

Over most of the water column from the lower portion of the cold halocline to the Atlantic Water, the marked tendency for warming on isohaline surfaces from northwest to the southeast was evident in all three years (compare Figure 43a and Figure 44a). Differences in T-S characteristics are comparatively small at stations B02 and P01. On the 33.5 isohaline surface, temperatures differed by less than 0.05C° for station B02, and by less than 0.03C° for station P01. The corresponding differences for the 33.9 isohaline are 0.06C° (B02) and 0.05C° (P01).

However, at station B04, located off the east coast of Lougheed Island in Maclean Strait, large reductions occurred in temperatures on isohaline surfaces in 1983 from those of both 1982 and 1979. On the 33.5 surface, temperatures in 1983 were reduced by 0.115C° from 1982 and by 0.067C° from 1979, while on the 33.9 surface, 1983 temperatures were reduced by 0.058C° from 1982 and by 0.010C° in 1979. At station D06, 1983 temperatures were similar to those of 1982, but larger than those of 1979. Warmings of 0.124C° and 0.128C° were computed for the 33.5 and 33.9 isohalines. These changes in T-S characteristics at stations B02 and D06 indicate that hydrographic features of reduced horizontal scale (<50 km) do occur within the Queen Elizabeth Islands.

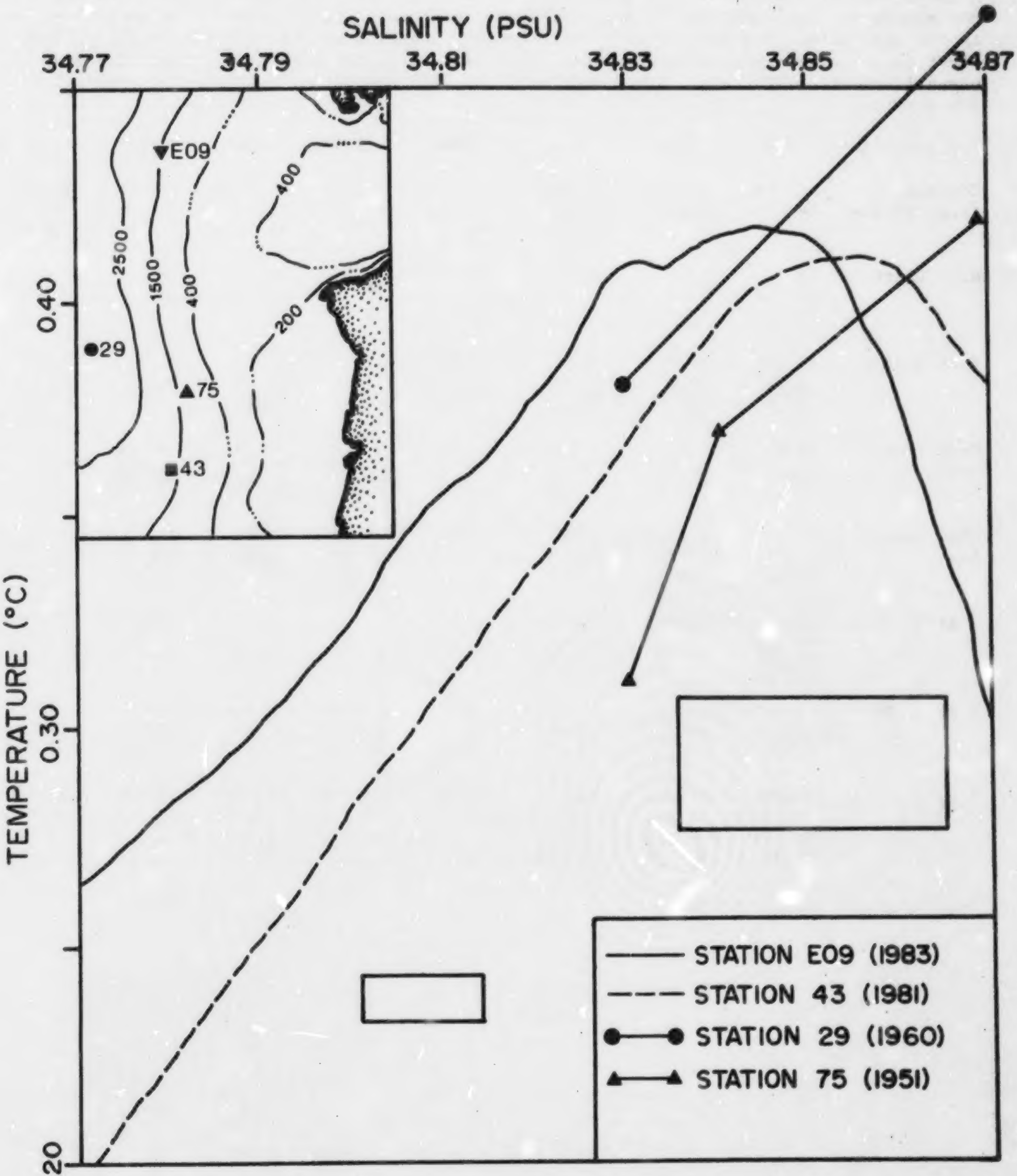


Figure 51: Temperature-salinity characteristics of stations E09 obtained in March 1983 and station 43, obtained in March 1981. Also shown are historical bottle cast data obtained at locations shown in the inset map. The large and small rectangles represent the observational accuracy of the bottle and CTD data, respectively.

Table 7

A comparison of oceanographic conditions for Queen Elizabeth Islands stations occupied in the spring for both 1983 and 1982 or 1979. For each quanity, the order of numerical values is the 1983 value, the 1982 or 1979 value and the change from 1982 or 1979 to 1983. The first three columns are comparisons with 1982 data while the remaining columns represent comparisons with 1979 data. Since station 71 in 1979 was occupied twice, two comparisons are provided.

Station	B02	B04	D06	B02*	B04*	D06*	P01*	P01*
Distance from '82 Stn	4.9 km SE	4.6 km NNE	24.9 km W of D02/82	13.0 km SE of 34/79	5.8 km N of 38/79	16.7 km SE of 63/79	6.6 km NNW of 71/79	1.6 km NNW of 71/79
M.L. Depth	26 25 -1	35 35 0	19 26 -7	26 47 -21	35 27 8	19 <5 14	37 33 -4	37 39 -2
S at 5 dbar	31.84 32.36 -0.52	31.64 31.93 -0.29	31.41 31.64 -0.23	31.84 32.33 -0.49	31.64 32.25 -0.61	31.41 31.65 -0.24	31.72 32.47 -0.75	31.72 32.47 -0.75
Mean Temp. Dev.	0.194 0.157 0.037	0.267 0.174 0.093	0.230 0.154 0.076	0.194 0.174 0.020	0.267 0.234 0.033	0.230 0.139 0.091	0.192 0.273 -0.081	0.192 0.168 0.024
Min. Temp. Dev.	0.192 0.184 0.008	0.236 0.141 0.095	0.221 0.103 0.188	0.192 N/A	0.236 0.056 0.180	0.221 0.020 0.201	0.135 N/A	0.135 0.308 -0.173
T at 33.50	-1.170 -1.120 -0.050	-1.312 -1.120 -0.115	-1.185 -1.196 0.011	-1.170 -1.169 -0.001	-1.312 -1.245 -0.067	-1.185 -1.309 0.124	-1.260 -1.239 -0.021	-1.260 -1.228 -0.032
T at 33.90	-0.845 -0.787 -0.058	-0.966 -0.865 -0.101	-0.836 -0.863 0.027	-0.845 -0.851 0.006	-0.966 -0.956 -0.010	-0.836 -0.964 0.128	-0.910 -0.968 0.058	-0.910 -0.902 -0.008
T at S =	34.701 0.128 0.113 0.015	34.777 0.246 0.221 0.025	34.799 0.279 0.264 0.015	<34.52 N/A	34.764 0.230 0.122 0.108	34.799 0.279 0.147 0.132	34.830 0.297 0.210 0.087	34.730 0.148 0.170 -0.022

Within the Atlantic Water, a small increase in temperature of approximately 0.015 to 0.025C° is evident for 1983 as compared to 1982 (Figure 52). While these differences are small in terms of the spatial variations within the Queen Elizabeth Islands (changes of up to 0.05C° as shown in Figure 45b), and in comparison to the measurement accuracy of the instrument, the fact that all three locations exhibit approximately the same change in temperature suggests that the result may be meaningful or a systematic error. Larger differences exist between the 1983 and the 1979 results with the temperatures of 1983 being larger by up to 0.132C° for equal near-bottom salinities. Some of these differences could result from systematic calibration errors.

Central Sill Region

Data from the 1982 and 1983 Penny Strait sections may be used to examine year-to-year variability in the central sill region. The Barrow Strait portion of the central sill region has been intensively investigated by the Bayfield Laboratory, and its discussion will be left to them, except for comment on the test casts taken in Barrow Strait as part of the program described in this report. In both 1982 and 1983 one station was occupied on the south side of Barrow Strait (Station BL46 in 1982, Station 090 in 1983). The only significant difference found between the two profiles was the depth of the mixed layer, which was 55 m in 1982 and 35 m in 1983.

In Penny Strait, significant differences in the distribution of water properties across the channel were apparent. T-S curves from the section for both 1982 and 1983 are shown in Figure 53. In both years, the T-S curves are straight lines, the result of strong mixing in the channel. However, in 1983, the properties are more uniform across the channel, and the envelope of the curves is shifted to slightly higher temperatures and lower salinities. At 5 dbar, the decrease in salinity (Table 8) is largest on the eastern side of the strait, with values of 0.25. Temperatures in the surface layer are markedly higher, with deviation from the freezing temperature increasing by amounts ranging from 0.019C° to 0.182C° (A03). The decrease in variation of water properties across the channel is reflected in the reduced cross-channel gradients and weaker geostrophic flow in 1983 compared to 1982 discussed in Section 4.3. The shift of the 1983 T-S envelope for Penny Strait to temperatures higher by approximately 0.020°C and salinities lower by approximately 0.05 does not appear to be due to tidal advection of a property gradient through the Strait such as that discussed by Topham et al. (1983). Because the T-S curves for stations A08 and A06, located north and south of Penny Strait, respectively, bracket the 1983 Penny Strait envelope, but not the 1982 envelope, it is unlikely that this difference in position of the two envelopes could be due to their being measured at different phases of the tide. No excursion in 1983, no matter how great could introduce water to Penny Strait which would coincide with the 1982 envelope.

Prince Regent Inlet and Lancaster Sound

Changes are generaly small and lack consistency for near-surface salinity and mixed layer depth between 1983 and 1982 (see Table 9). However, a change in the structure of the cold halocline in both Prince Regent Inlet and Lancaster Sound is apparent when data from 1982 and 1983 are compared. Figure 54 shows vertical profiles at station L04 in Prince Regent Inlet taken in 1982 and 1983. In 1983 the water column between 100 and 250 m is approximately

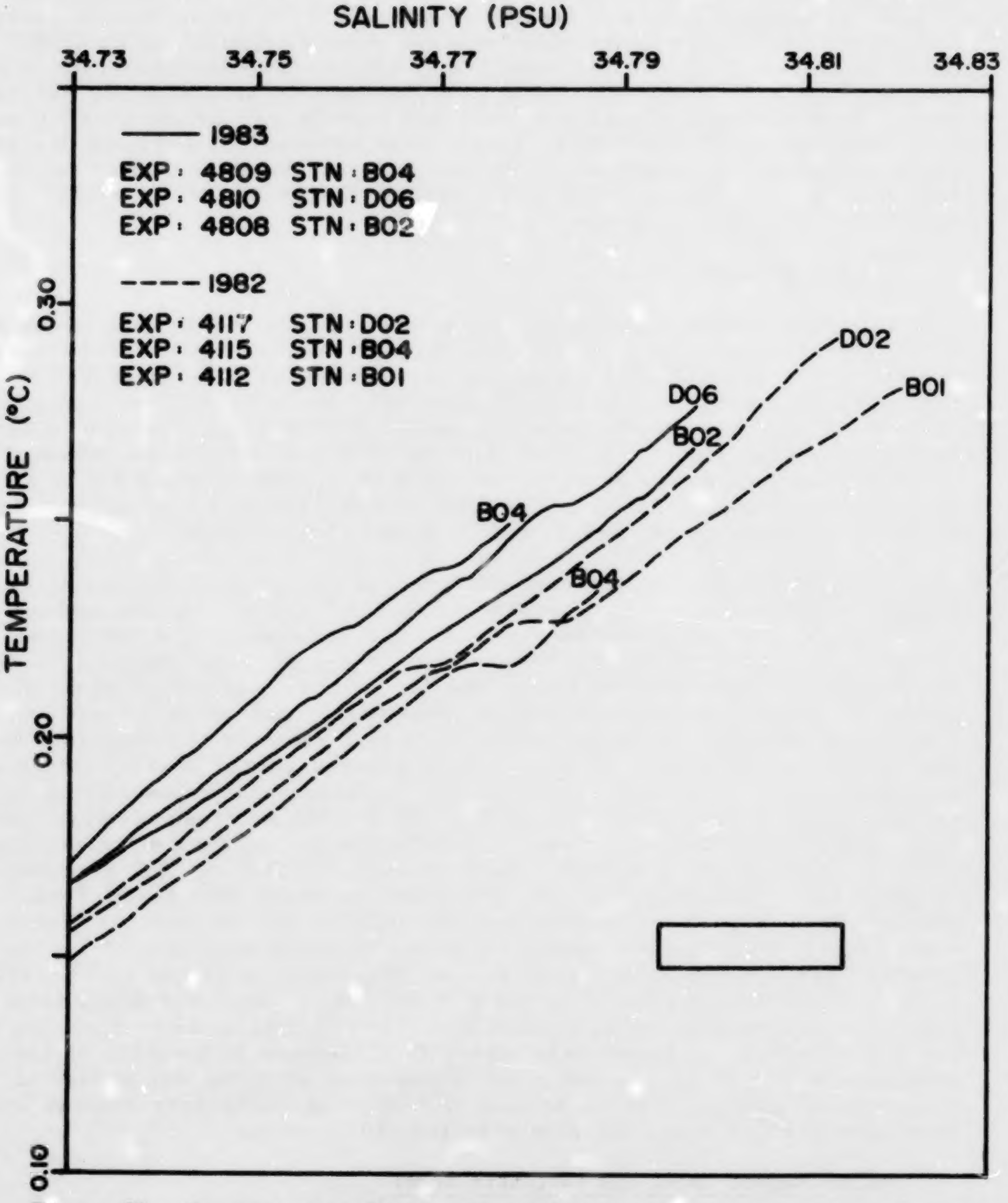


Figure 52: Temperature-salinity characteristics of the deep waters in the Queen Elizabeth Islands for CTD profiles obtained in March 1982 and March 1983. The rectangle represents the observational accuracy of the CTD data.

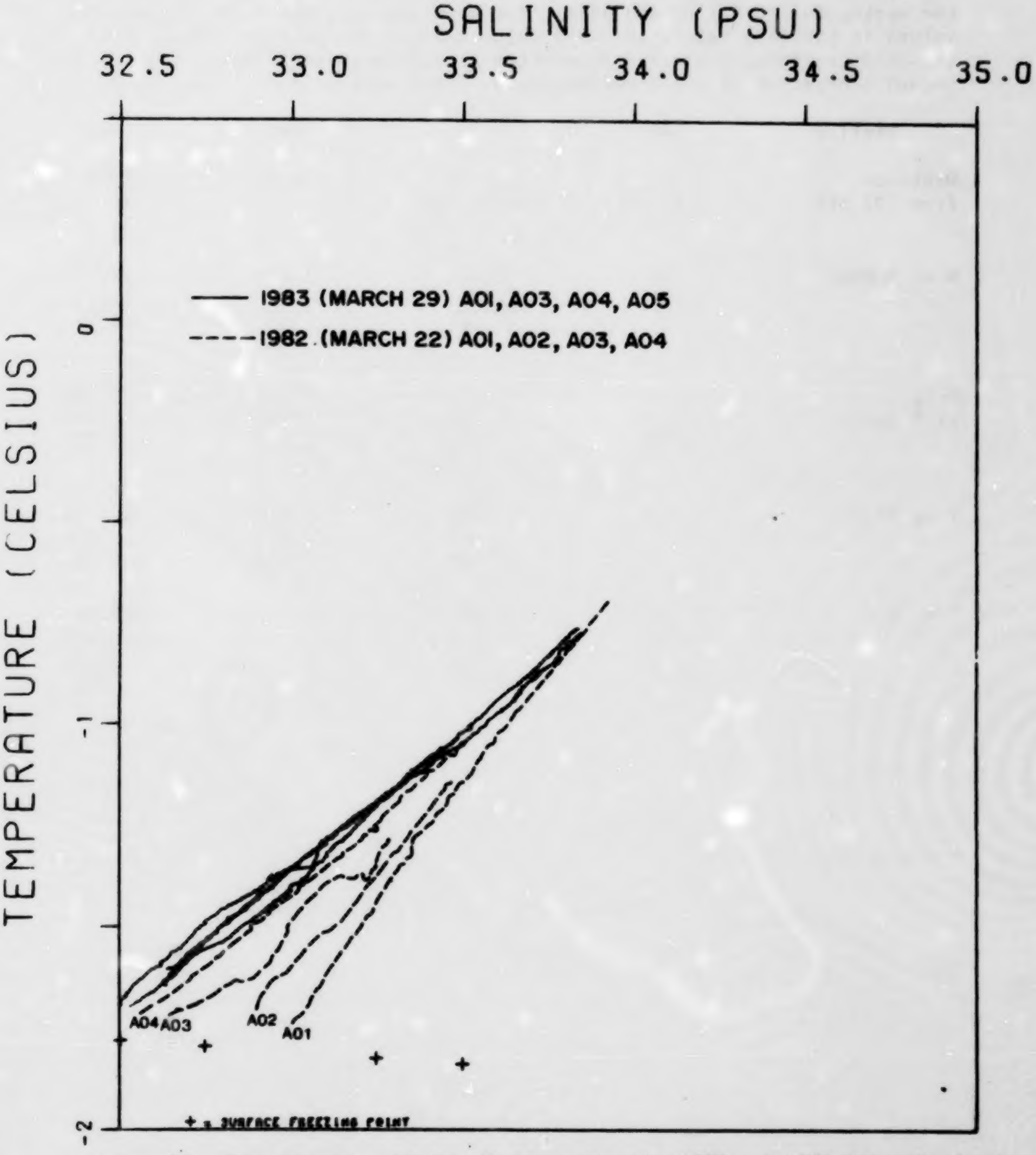


Figure 53: Temperature-salinity diagrams for the 1982 and 1983 data obtained in Penny Strait.

Table 8

A comparison of oceanographic conditions for Penny Strait stations occupied in the spring for both 1983 and 1982. For each quanity, the order of numerical values is the 1983 value, the 1982 value and the change from 1982 to 1983. Of the 1983 stations, the first occupation of A02 (experiment no. 4835) and the second occupation of A03 (experiment no. 4843) were used.

Station	**A02**	**A05**	**A03**	**A04**
Distance from '82 Sta	6 km N of A01	1.5 km N of A02	2.5 km N	2 km NE
S at 5 dbar	32.76 33.01 -0.25	32.64 32.90 -0.26	32.82 32.62 0.20	32.53 32.55 -0.02
$T-T_f$ at 5 dbar	0.160 0.073 0.087	0.184 0.090 0.094	0.242 0.059 0.183	0.086 0.067 0.019
T at 33.0	-1.445 N/A	-1.406 -1.596 0.190	-1.378 -1.495 0.117	-1.356 -1.418 0.062
T at S =	**33.50** -1.035 -1.137 0.102	**33.40** -1.088 -1.211 0.123	**N/A**	**33.40** -1.082 -1.120 0.038

Table 9

A comparison of oceanographic conditions for Prince Regent Inlet stations occupied in the spring for both 1983 and 1982. For each quanitity, the order of numerical values is the 1983 value, the 1982 value and the change from 1982 to 1983.

Station	090	N01	N07	L01	L02	L03	L04	L05	L06
Distance from '82 Stn	2.2 km W	2.5 km SSW	6.0 km NE of N04	9.8 km WE	1.1 km N	2.6 km N	1.4 km NE	3.3 km S	4.7 km W
M.L. Depth	35 55 -20	38 28 10	20 21 -1	23 19 4	34 15 19	11 15 -4	11 48 -37	51 57 -6	50 34 16
S at 5 dbar	32.40 32.45 -0.05	32.79 32.82 -0.03	32.71 32.35 0.36	32.39 32.70 -0.31	32.28 32.45 -0.07	32.49 32.31 0.18	32.45 32.14 0.31	32.37 32.1 0.21	32.36 32.13 0.23
Mean Temp. Dev.	0.200 0.267 -0.067	0.015 0.112 -0.097	0.043 0.115 -0.072	0.083 0.110 -0.027	0.083 0.171 -0.088	0.113 0.098 0.015	0.096 0.133 -0.037	0.101 0.223 -0.122	0.078 0.155 -0.077
Min. Temp. Dev.	N/A	0.127 0.054 0.073	0.106 0.136 -0.030	0.015 0.116 -0.101	0.012 0.064 -0.052	0.115 0.066 0.049	0.000 0.035 -0.035	0.019 0.136 -0.117	0.000 0.035 -0.035
T at 33.00	-1.454 -1.354 -0.100	-1.743 -1.612 -0.131	-1.691 -1.531 -0.160	-1.649 -1.536 -0.113	-1.545 -1.483 -0.062	-1.678 -1.537 -0.141	-1.550 -1.455 -0.085	-1.511 -1.461 -0.050	-1.670 -1.465 -0.205
T at 33.50	N/A	-1.187 -1.570 0.383	-1.106 -1.665 0.559	-1.105 -1.275 0.170	-1.158 -1.246 0.088	-1.167 -1.247 0.080	-1.104 -1.292 0.188	-1.184 -1.280 0.096	-1.166 -1.256 0.090
T at 33.90	N/A	-0.584 -0.400 -0.180	-0.565 -0.509 -0.056	-0.516 N/A	-0.496 N/A	-0.610 -0.698 0.088	-0.626 -0.748 0.122	-0.615 -0.696 0.081	N/A
T at S =	N/A	34.146 0.186 0.008 0.078	34.191 0.355 0.232 0.123	N/A	N/A	34.165 0.186 0.130 0.056	34.214 0.293 0.255 0.038	N/A	N/A

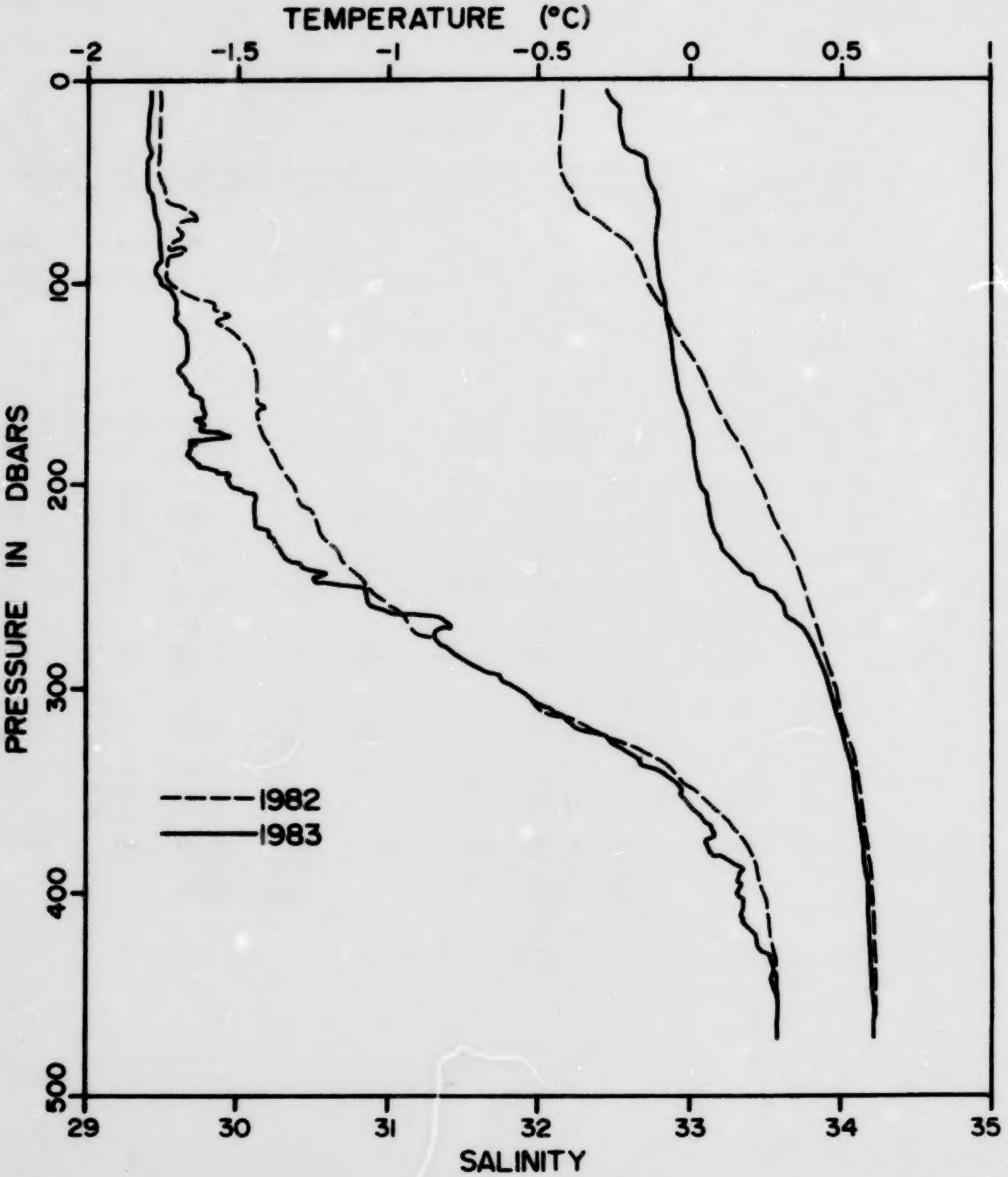


Figure 54: Comparison profiles for temperature and salinity obtained at station L04 on March 30, 1983 (solid line) and April 5, 1982 (dashed line).

0.25°C colder than in 1982, and the salinity gradient is less steep. The difference is not confined to station L04 as evident in the reduction in mean temperature deviations and in temperature at a salinity of 33.0 (cold halocline level) from 1983 to 1982 (Table 9). This temperature reduction is also seen in Figure 55 which shows the family of T-S curves for the Prince Regent Inlet section in 1982 and 1983. The 1983 data show the cold halocline penetrating to salinities between 33.00 and 33.10, whereas in 1982 it was limited to salinities less than 32.94. In the main thermocline, the T-S curves are straighter in 1983, suggesting that more mixing was taking place in 1983 than 1982. Figure 56 demonstrates the same increased linearity in the thermocline in Lancaster Sound, although the curves exhibit too much smaller scale variability in the cold halocline region to reveal whether differences similar to those observed in Prince Regent Inlet are also present.

In Prince Regent Inlet and in Lancaster Sound comparison of the 1983 and 1982 data suggests the occurrence of year-to-year variations in the advection of water into the cold halocline, and in the mixing between the Atlantic and Arctic water masses. The changes in the penetration of the cold halocline between the springs of 1982 and 1983 and the summer of 1979 are shown in Figure 57. The summer data shows the cold halocline penetrating to salinities greater than 33.75, far above the spring values observed in either 1982 or 1983.

Year-to-year changes in the T-S properties of the Atlantic Water in Lancaster Sound and Prince Regent Inlet were also observed (Figure 58). The most striking differences are in Lancaster Sound, where in 1983 the Atlantic Water was warmer by 0.02 to 0.10°C, and included salinities from 0.04 to 0.10 higher than those observed in 1982. In Prince Regent Inlet, the Atlantic Water did not appear to be significantly warmer, but was approximately 0.02 lower in salinity.

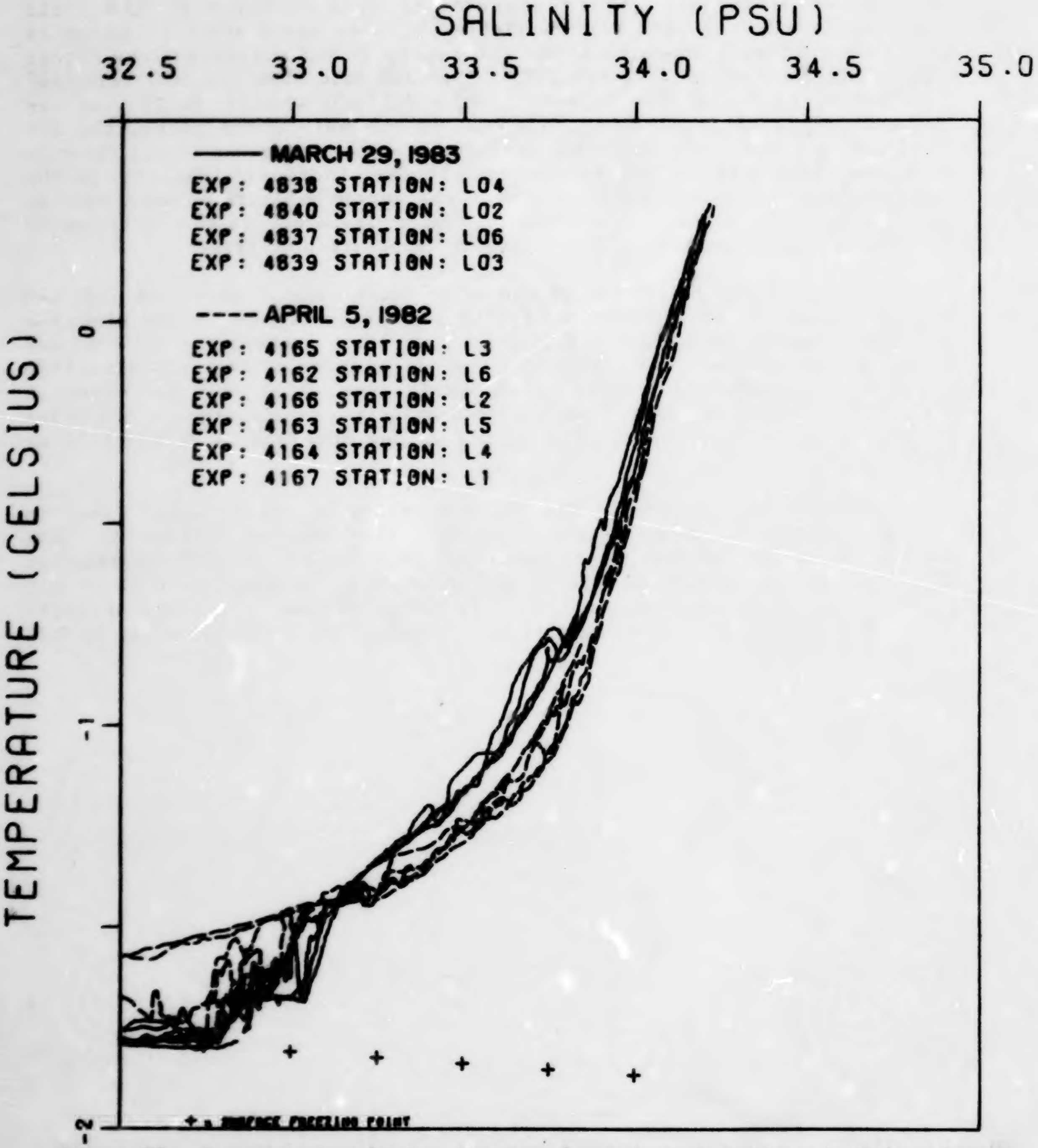


Figure 55: Temperature-salinity diagrams for selected stations in Prince Regent Inlet, obtained on March 30, 1983 and April 5, 1982.

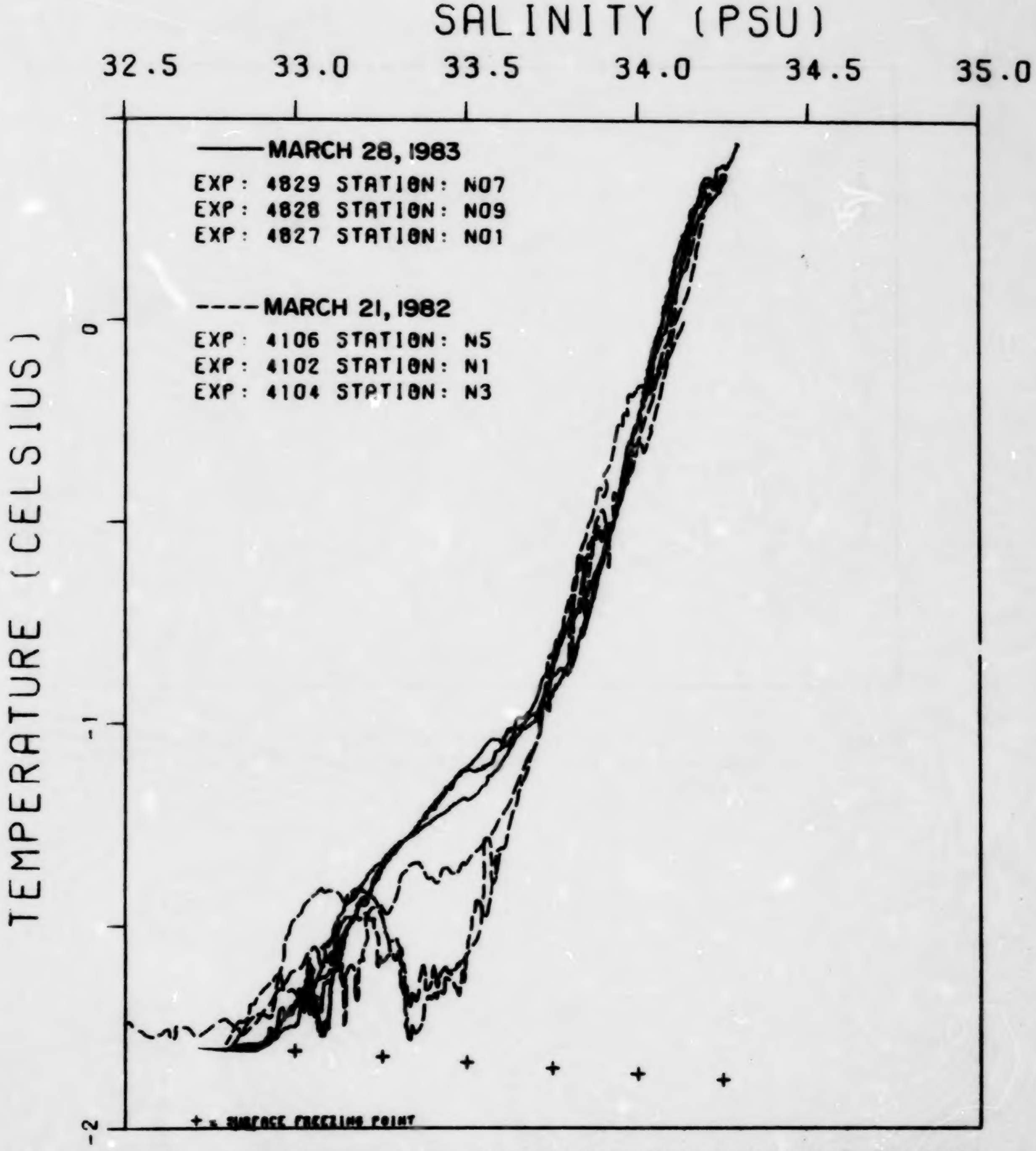


Figure 56: Temperature-salinity diagrams for selected stations in Lancaster Sound, obtained on March 28, 1983 and March 21, 1982.

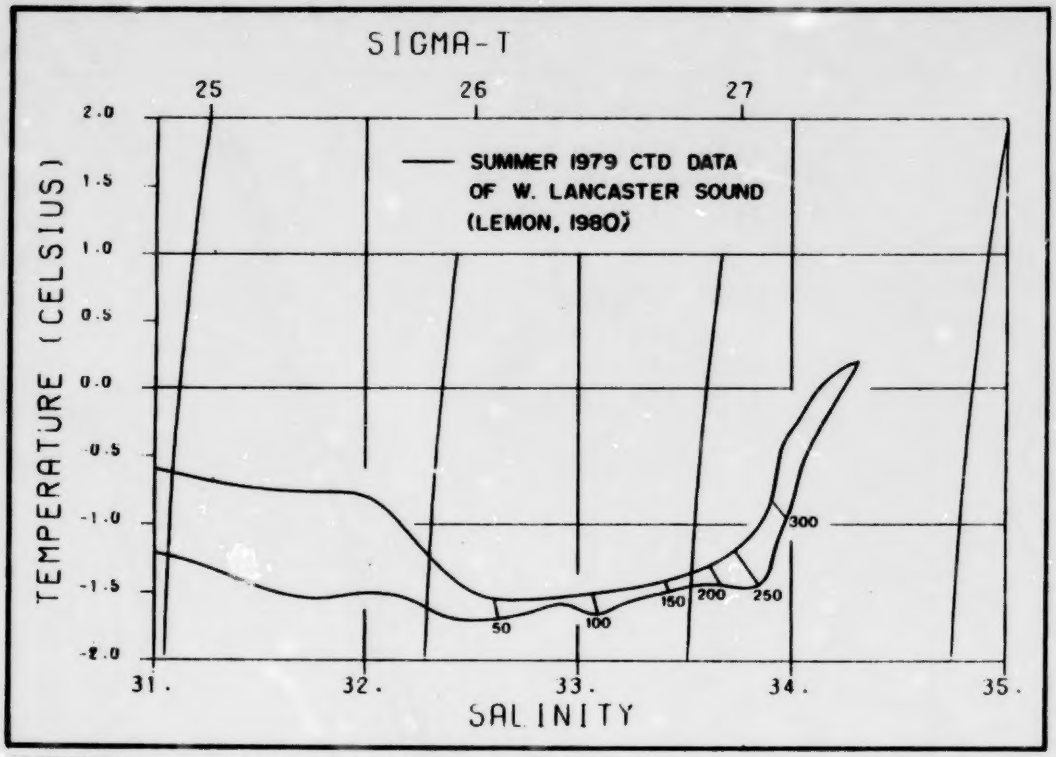


Figure 57: The envelope of T-S curves for CTD stations of western Lancaster Sound and northern Prince Regent Inlet, occupied in the summer of 1979.

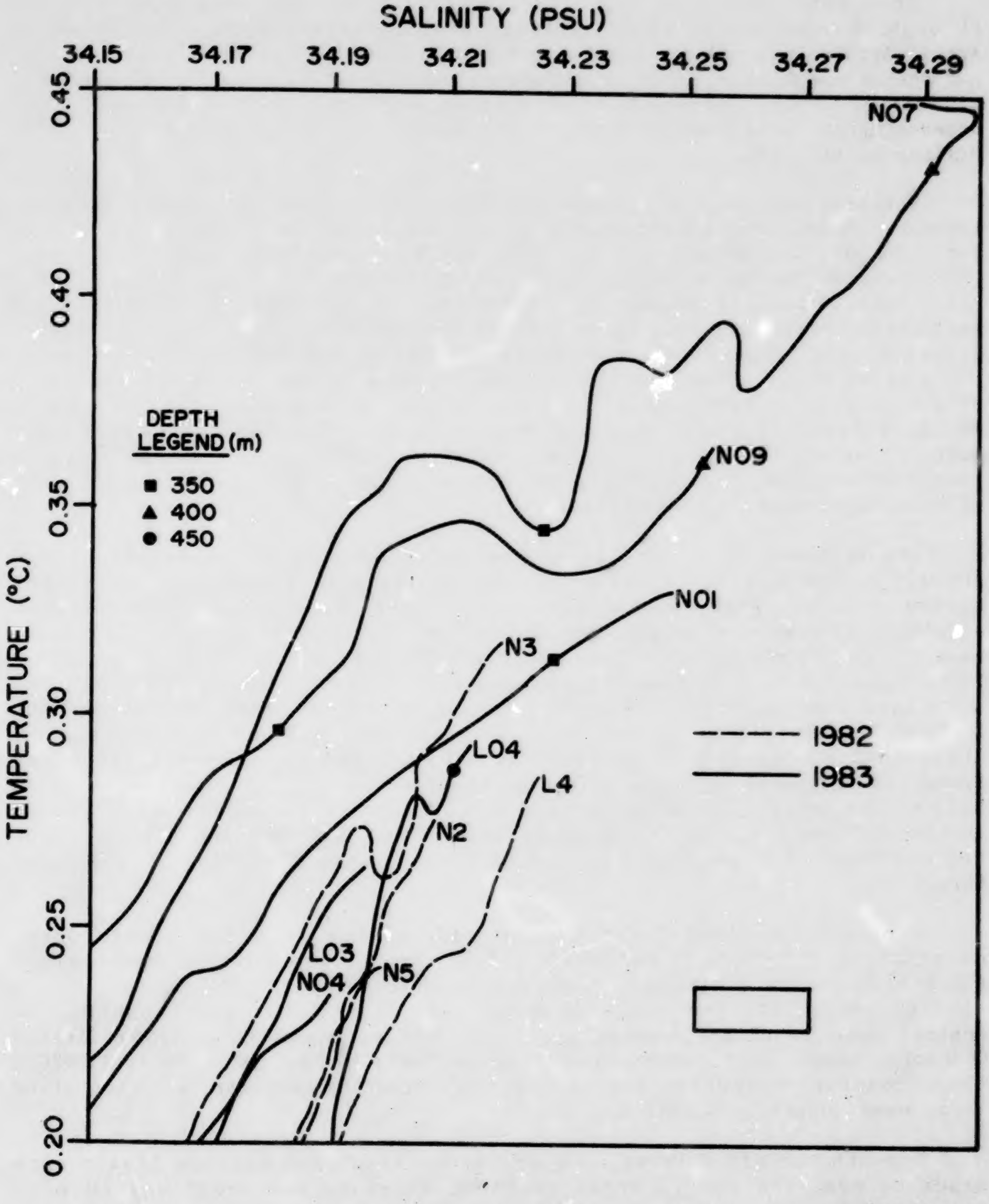


Figure 58: Comparison of detailed T-S curves in the Atlantic Water in Prince Regent and Lancaster Sound, 1982 and 1983.

5. SUMMARY AND CONCLUSIONS

From March 20 to April 2, 1983, a total of 53 CTD casts were obtained through the sea-ice at 43 widely separated locations within the Canadian Arctic Archipelago. Water samples were collected at 19 of these locations for subsequent chemical analysis of dissolved nutrients (nitrate, phosphate and silicate). These data were collected as part of a series of coordinated oceanographic field studies begun in the spring of 1982 (Fissel et al., 1983; Melling et al., 1984).

Vertical sections of temperature and salinity from the Arctic Ocean to Lancaster Sound were constructed over two transects: through the length of Parry Channel and through the Queen Elizabeth Islands-Penny Strait-Wellington Channel-Lancaster Sound region. From the Arctic Ocean to the shallow central sills near Cornwallis Island, an overall trend of increasing temperatures and salinities towards the east is evident in the uppermost 200 m. The horizontal gradients are largest over the continental slope and over the steep rise to the central sills. Over the shallow central area of Barrow Strait and Penny Strait to Wellington Channel, the water column is very well mixed as evident in the relatively small vertical gradients and very linear temperature-salinity curves. To the east of the central shallow area, the water column is marked by very low, near-freezing temperatures appearing to depths of 200 m or more at relatively high salinities.

The near-surface circulation, as inferred from computed baroclinic geostrophic shears, is similar in overall pattern to the results for the spring of 1982. Flows were generally directed towards Parry Channel from adjoining waterways with a net easterly flow through the Channel. Flows are weak (≤ 2 cms^{-1}) through the channels of the Queen Elizabeth Islands, except in Penny Strait where the flows reached speeds of 5 cms^{-1}. Near-surface currents were also weak and directed towards eastern Parry Channel in both eastern M'Clure Strait (<1 cms^{-1}) and Prince Regent Inlet (≤ 2 cms^{-1} to the north). These inflows apparently result in a net eastward flow through Lancaster Sound, as indicated by computed speeds of up to 12 cms^{-1} across the northern half of the Sound. The near-surface geostrophic flow over the Arctic Ocean continental shelf was uniformly southeastward and weak (<2 cms^{-1}) except over the continental slope where speeds of 5 cms^{-1} were determined off M'Clure Strait.

The surface mixed layer became more saline from the Arctic Ocean continental slope (31.3) and shelf (31.5) through the western Archipelago (31.5-32.5) to the vicinity of the central shallow sills (32.5-33.0). To the east of the sills, the salinity decreased (32.3-32.8). Over some of the central passages of the Archipelago (Penny Strait, Queens Channel, Wellington Channel), mixed layer temperatures were markedly higher (by 0.044 to 0.242C°) than freezing; elsewhere deviations from freezing temperature in the mixed layer were generally within 0.010C°.

Beneath the mixed layer, temperature maximum and minimum layers were observed over the Arctic Ocean continental slope and shelf and at most locations in the western Archipelago. These features, particularly the temperature maximum, were much less apparent in the eastern Archipelago, and did not exist in most of the central passages. The mean freezing temperature deviations from the mixed layer to the cold halocline are markedly reduced in the eastern Archipelago channels of Lancaster Sound and Prince Regent Inlet

(0.05 to 0.11C°) by comparison to the western Archipelago (0.17 to 0.33C°). Lower values in the east may well result from greater heat losses to the atmosphere in autumn and winter because of later ice cover stabilization in these areas, and from the existence of lateral intrusions of near freezing water from Baffin Bay, where the ice cover remains thinner and unconsolidated throughout the year.

In the central passages, the properties of the surface and subsurface layers (warm, saline water near the surface and linear T-S characteristics) reflect a considerable degree of vertical mixing, resulting in an upward transport of heat. A time series of CTD profiles (every half hour over a 3-hour period) obtained at one site revealed vertical excursions of isopleths of up to 25 m in amplitude, indicative of internal wave activity. The appearance or disappearance of particular step-like features from one profile to another provides further evidence of the occurrence of significant mixing in Penny Strait.

In the main thermocline layer, spatially coherent, large-scale patterns were evident in T-S properties over the Arctic Ocean continental shelf and within the channels of the western Archipelago. Over the continental shelf, T-S curves exhibited an increasing degree of linearity and lower temperatures on isohaline surfaces with progression from the area north of Ellesmere Island southwest to the area adjacent to M'Clure Strait. These changes likely reflect an increasing influence of the penetration of near-freezing surface waters deep into the halocline, associated with the greater amount of ice formation with progression towards the southeast Beaufort Sea (Melling and Lewis, 1982).

Within the western Archipelago, the temperature increases on isohaline surfaces from the continental shelf to the vicinity of the shallow central passages. The increases in temperatures are larger within the Queen Elizabeth Islands (0.29C° at 33.5, 0.40C° at 33.9) than within western Parry Channel (0.26C° at 33.5, 0.21C° at 33.9). The overall horizontal gradients in the Queen Elizabeth Islands are larger by a factor of two on the 33.5 isohaline surface and by a factor of four on the 33.9 isohaline surface, than those in western Parry Channel. While the warming of the waters of main thermocline must be a result of heat uptake from the underlying Atlantic Water, the reasons for the difference in heat uptake between these two regions is not clear. Possible causes include differences in: advective motion (likely lower in the Queen Elizabeth Islands), the intensity of vertical mixing, the loss of heat to the overlying subsurface and surface (likely less in the Queen Elizabeth Islands) and the value of $^{2}T/ Z^{2}$. Additional research is required to determine the relative importance of these explanations.

In the Atlantic Water Mass, temperatures decreased markedly between the Arctic Ocean continental slope and the western entrances of M'Clure Strait and Prince Gustaf Adolf Sea. The difference on the 33.83 isohaline surface amounted to as much as 0.100C° in the former area and 0.050C° in the latter. Within the channels of the western Archipelago proper, the horizontal gradients were reduced in magnitude, and differences among stations were generally less than the measurement accuracy. While the cooling of Atlantic Water is reduced with increasing eastward displacement from the continental shelf through the western Archipelago, the warming in the overlying thermocline is increased. This inconsistency in the horizontal gradients provides further evidence supporting the conclusion of Melling et al. (1984)

that while within the Arctic Ocean the upward diffusion of heat from the Atlantic Water is balanced by intrusions of near-freezing water, within the western Archipelago, where the upward diffusion of heat from the Atlantic Water still persists, heat losses within the main thermocline due to intruding near-freezing waters are reduced; the result is a progressive warming.

The temperature of the Atlantic Water at salinities of 34.85 or less measured over the continental slope off M'Clure Strait (station E09) is higher than temperatures observed to the south over the continental slope in the Beaufort Sea in 1981 (Melling et al., 1984). The higher temperatures at station E09 may be evidence of a direct flow of Atlantic water from the Chukchi Plateau to the continental slope off the western Archipelago, as inferred previously by Newton and Coachman (1974).

Detailed comparisons were made of the 1983 CTD data with those obtained one year earlier (Fissel et al., 1984; FSRG, unpublished data). At virtually all of the measurement locations in the western Archipelago, the near-surface salinities of 1983 were reduced by amounts of up to 0.73. Accompanying the reduction in near-surface salinity at most, but not all locations, were decreases in mixed layer depth and an increase in the mean freezing temperature deviation from the base of the mixed layer to the cold halocline. Such differences are consistent with a reduction in heat losses to the surface in the previous autumn and early winter. Such would result in less convective penetration into the upper portion of the water column, and therefore reduced near-surface salinities and mixed layer depths, and a reduced degree of erosion of the underlying temperature maximum layer.

By contrast, a greater degree of cooling may have occurred in the surface and subsurface layers of Lancaster Sound and Prince Regent Inlet. In these areas, the water column is notably cooler, as evident in the penetration of near-freezing temperatures to greater depths and the corresponding reduction in the mean and minimum freezing temperature deviation.

At greater depths, marked reductions of 0.07 to 0.12C° in temperature occurred within the main thermocline at locations in eastern M'Clure Strait and Maclean Strait from 1982 to 1983. An accompanying increase in Atlantic Water temperatures of one-third to one-fifth the magnitude (0.017 to 0.029C°), perhaps largely attributable to observational uncertainty, was observed at these same sites. The combined reduction in warming of thermocline waters and cooling of the Atlantic Water, may reflect less heat uptake from below at these locations in 1983 than for 1982. Interannual variability was also evident in the main thermocline and in Atlantic Waters of Lancaster Sound and Prince Regent Inlet: Atlantic Water temperatures increased for common salinities from 1982 to 1983, while changes in the main thermocline varied substantially, in both amplitude and sign, among locations.

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APPENDIX 1

CTD DATA PLOTS AND LISTING

STATION NAME-EXPERIMENT NUMBER INDEX

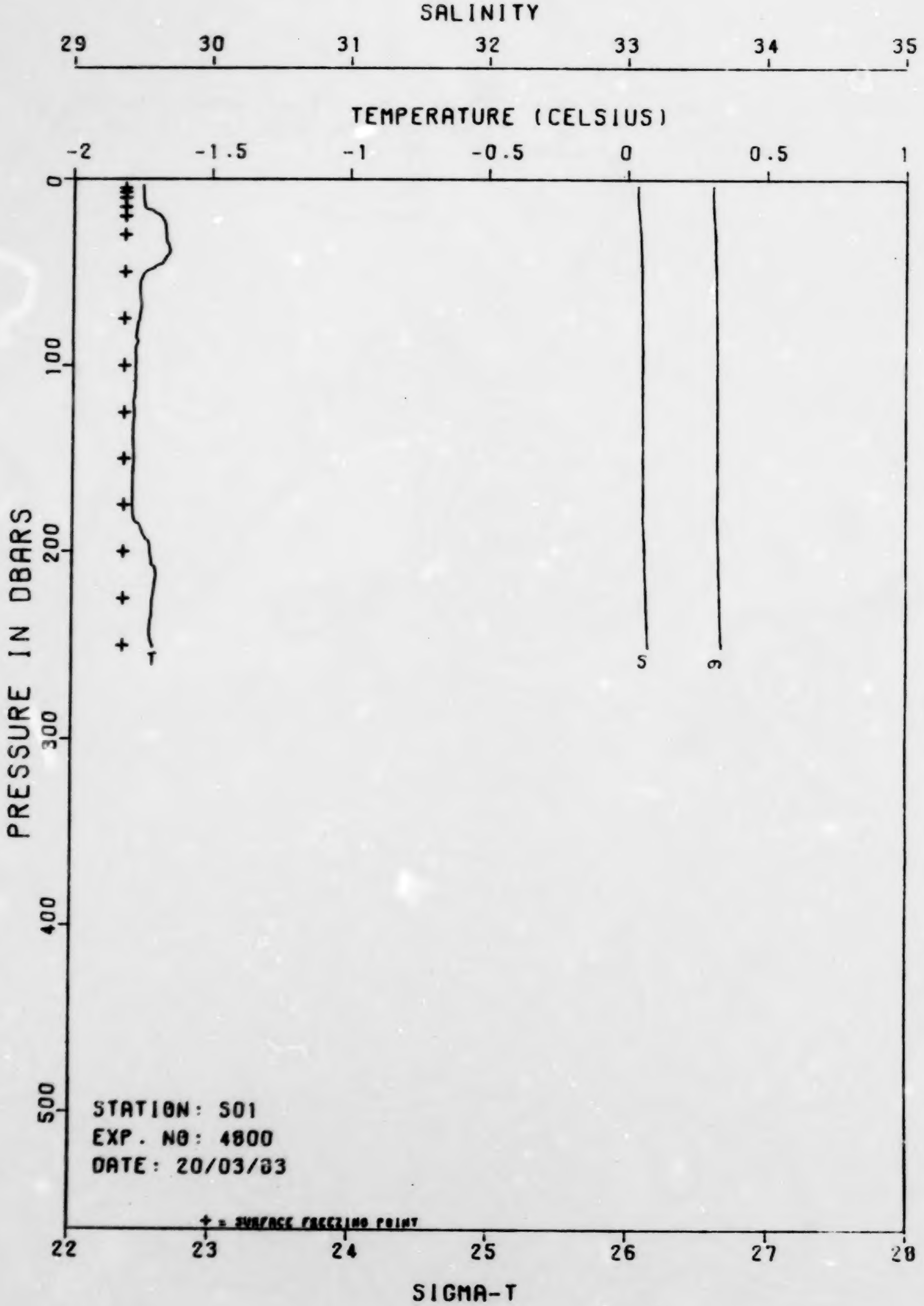
The list is ordered alphanumerically (letters precede numbers) by station name and gives the corresponding experiment number, date of occupation and geographical area for each station. The following symbols appear under the comments column: S=salinity calibration sample collected; T=temperature calibration performed; P=shallow pressure check performed; P'=deep pressure check performed; N=nutrient samples collected; I=intercomparison station.

Station	Experiment No.	Date (GMT)	Geographical Area	Comments
A01(?)	4831	March 29	Penny Strait	T; True position not known
A01	4836	March 29	Penny Strait	
A02	4835	March 29	Penny Strait	S, N, P
A02	4844	April 1	Penny Strait	P, N; time series cast #1 - 0.5 hr intervals
A02	4845	April 1	Penny Strait	N, P
A02	4846	April 1	Penny Strait	S, P
A02	4847	April 1	Penny Strait	P
A02	4848	April 1	Penny Strait	P
A02	4849	April 1	Penny Strait	P
A02	4850	April 1	Penny Strait	P; Final time series cast
A03	4833	March 29	Penny Strait	
A03	4843	April 1	Penny Strait	
A04	4832	March 29	Penny Strait	N, P
A05	4834	March 29	Penny Strait	P
A06	4851	April 2	Queens Channel	P
A08	4830	March 29	Sverdrup Basin-Penny Strait	T, S
B02	4808	March 24	Maclean Strait	T, S, N, P
B04	4809	March 24	Maclean Strait	N, P
D06	4810	March 24	Hazen Strait	P

Station	Experiment No.	Date (GMT)	Geographical Area	Comments
D08	4811	March 24	Hazen Strait	S, P
E55	4820	March 27	W. M'Clure Strait	P
E06	4819	March 26	W. M'Clure Strait	S, N, P
E07	4818	March 26	W. M'Clure Strait	P
E08	4817	March 26	W. M'Clure Strait	T, S, N
E09	4816	March 26	Arctic Ocean- M'Clure Strait	P
K03	4805	March 23	Larsen Sound	N
K05	4803	March 22	M'Clintock Channel	I (Probe 6)
K05	4804	March 22	M'Clintock Channel	I, T, N
L01	4841	March 30	Pr. Regent Inlet	S, P
L02	4825	March 28	Pr. Regent Inlet	T, S, P', N, P
L02	4840	March 30	Pr. Regent Inlet	P
L03	4839	March 30	Pr. Regent Inlet	P
L04	4838	March 30	Pr. Regent Inlet	P
L05	4826	March 28	Pr. Regent Inlet	P
L06	4837	March 30	Pr. Regent Inlet	T, S, N, P
N01	4827	March 28	Lancaster Sound	S, N, P
N08	4829	March 28	Lancaster Sound	N, P
N09	4828	March 28	Lancaster Sound	P
P01	4824	March 27	Pr. Gustaf Adolf Sea	S, N, P
P02	4823	March 27	Pr. Gustaf Adolf Sea	P
P03	4822	March 27	Pr. Gustaf Adolf Sea	P
P04	4821	March 27	Pr. Gustaf Adolf Sea- Arctic Ocean	T, S, P', N, P
Q02	4813	March 25	E. M'Clure Strait	T, P
Q04	4815	March 25	Pr. of Wales Strait	S, P

Station	Experiment No.	Date (GMT)	Geographical Area	Comments
R11	4814	March 25	E. M'Clure Strait	N, P
R16	4812	March 25	E. M'Clure Strait	T, S, N, P
S01	4800	March 20	Wellington Channel	T, S, P
V01	4842	April 1	Norwegian Bay	T, S, N, P
040	4807	March 23	Viscount Melville Sound	S, P', P
048	4806	March 23	Viscount Melville Sound	T, N, P
089	4801	March 21	Barrow Strait	T, S, N, I
090	4852	April 4	Barrow Strait	T, I, P

Note: On the temperature-salinity plots, the triangle symbols denote the occurrence of the following standard pressure; 50, 100, 200, 300, 400, 500, 750, 1000 and 1500 dbar.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30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
0
0.5
1
PRESSURE IN DBARS
0
100
200
300
400
500
T
S
σ
STATION: S01
EXP. NO: 4800
DATE: 20/03/83
+ = SURFACE FREEZING POINT
22
23
24
25
26
27
28
SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE S01 EXPERIMENT 4800

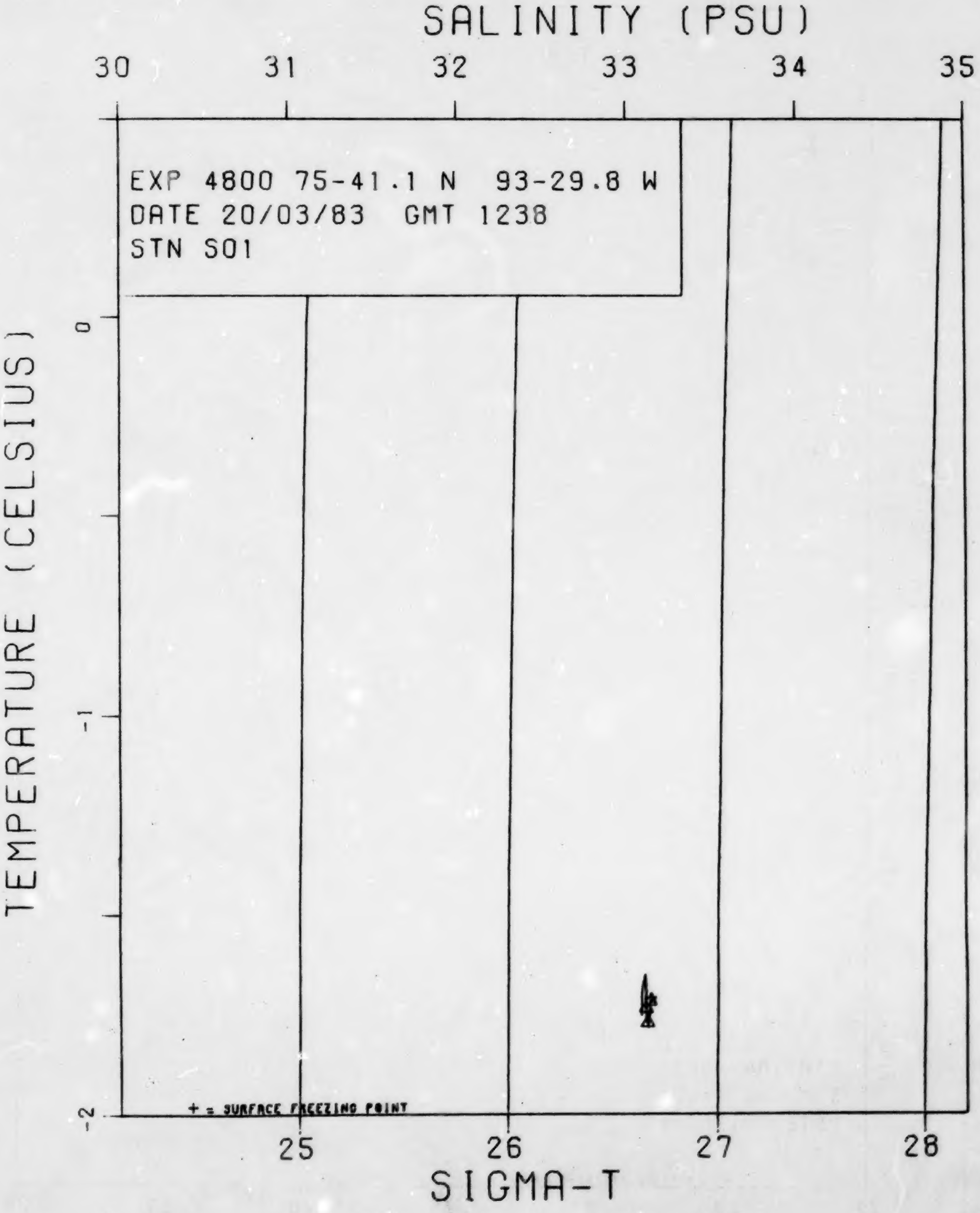
LAT.N. 75-41- 5 LON.W. 93-29-47 DATE 20/ 3/83 G.M.T. 1238

ICE THICKNESS -9.0 M WATER DEPTH 251 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
3.5	-1.752	.60965	33.071	26.612	.005	1438.5
4.0	-1.753	.60965	33.072	26.612	.006	1438.5
5.0	-1.752	.60967	33.071	26.612	.007	1438.5
6.0	-1.749	.60970	33.071	26.611	.008	1438.5
7.0	-1.750	.60970	33.071	26.611	.010	1438.6
8.0	-1.748	.60971	33.068	26.609	.011	1438.6
9.0	-1.746	.60971	33.067	26.608	.013	1438.6
10.0	-1.746	.60977	33.071	26.612	.014	1438.6
11.0	-1.748	.60979	33.071	26.612	.016	1438.6
12.0	-1.746	.60984	33.071	26.611	.017	1438.7
13.0	-1.745	.60986	33.071	26.612	.018	1438.7
14.0	-1.745	.60993	33.074	26.613	.020	1438.7
15.0	-1.743	.60994	33.072	26.612	.021	1438.7
16.0	-1.741	.61003	33.075	26.614	.023	1438.7
17.0	-1.713	.61053	33.072	26.611	.024	1438.9
18.0	-1.706	.61072	33.075	26.614	.025	1439.0
19.0	-1.690	.61104	33.077	26.614	.027	1439.0
20.0	-1.684	.61119	33.078	26.615	.028	1439.1
21.0	-1.681	.61128	33.079	26.616	.030	1439.1
22.0	-1.676	.61140	33.082	26.618	.031	1439.2
23.0	-1.672	.61152	33.082	26.619	.033	1439.2
24.0	-1.670	.61159	33.083	26.619	.034	1439.2
25.0	-1.668	.61164	33.083	26.619	.035	1439.3
27.5	-1.667	.61171	33.085	26.621	.039	1439.3
30.0	-1.666	.61185	33.091	26.625	.042	1439.4
32.5	-1.667	.61190	33.093	26.627	.046	1439.4
35.0	-1.662	.61202	33.093	26.627	.049	1439.5
37.5	-1.653	.61223	33.093	26.627	.053	1439.5
40.0	-1.654	.61225	33.094	26.628	.056	1439.6
42.5	-1.670	.61202	33.097	26.631	.060	1439.6
45.0	-1.679	.61187	33.096	26.630	.063	1439.6
47.5	-1.706	.61140	33.097	26.631	.067	1439.5
50.0	-1.739	.61084	33.099	26.634	.070	1439.4
55.0	-1.758	.61051	33.098	26.634	.077	1439.3
60.0	-1.759	.61058	33.100	26.635	.084	1439.4
65.0	-1.756	.61069	33.100	26.635	.091	1439.5
70.0	-1.754	.61081	33.102	26.637	.098	1439.6
75.0	-1.761	.61076	33.104	26.638	.105	1439.7
80.0	-1.768	.61069	33.104	26.639	.112	1439.7
85.0	-1.772	.61067	33.105	26.639	.119	1439.8
90.0	-1.775	.61074	33.109	26.643	.126	1439.9
95.0	-1.772	.61084	33.108	26.642	.133	1439.9
100.0	-1.773	.61090	33.109	26.643	.140	1440.0
105.0	-1.775	.61091	33.109	26.643	.146	1440.1

SITE S01 EXPERIMENT 4800

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
110.0	-1.774	.61099	33.110	26.644	.153	1440.2
115.0	-1.776	.61101	33.110	26.644	.160	1440.3
120.0	-1.782	.61092	33.109	26.643	.167	1440.3
125.0	-1.780	.61106	33.112	26.645	.174	1440.4
130.0	-1.781	.61112	33.113	26.646	.181	1440.5
135.0	-1.782	.61115	33.113	26.647	.188	1440.6
140.0	-1.782	.61121	33.114	26.647	.195	1440.6
145.0	-1.780	.61131	33.114	26.647	.201	1440.7
150.0	-1.779	.61136	33.113	26.646	.208	1440.8
155.0	-1.782	.61139	33.115	26.648	.215	1440.9
160.0	-1.783	.61144	33.116	26.648	.222	1441.0
165.0	-1.783	.61148	33.115	26.648	.229	1441.0
170.0	-1.783	.61152	33.114	26.647	.236	1441.1
175.0	-1.784	.61157	33.115	26.648	.243	1441.2
180.0	-1.782	.61166	33.116	26.648	.249	1441.3
185.0	-1.763	.61207	33.116	26.648	.256	1441.5
190.0	-1.746	.61252	33.120	26.651	.263	1441.6
195.0	-1.720	.61308	33.122	26.652	.270	1441.8
200.0	-1.720	.61321	33.126	26.655	.277	1441.9
210.0	-1.698	.61373	33.126	26.655	.290	1442.2
220.0	-1.703	.61385	33.133	26.661	.304	1442.4
230.0	-1.711	.61387	33.137	26.664	.317	1442.5
240.0	-1.721	.61393	33.145	26.671	.331	1442.6
250.0	-1.709	.61437	33.152	26.676	.344	1442.8
251.2	-1.706	.61444	33.153	26.677	.346	1442.9


SALINITY (PSU)
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31
32
33
34
35
EXP 4800 75-41.1 N 93-29.8 W
DATE 20/03/83 GMT 1238
STN S01
TEMPERATURE (CELSIUS)
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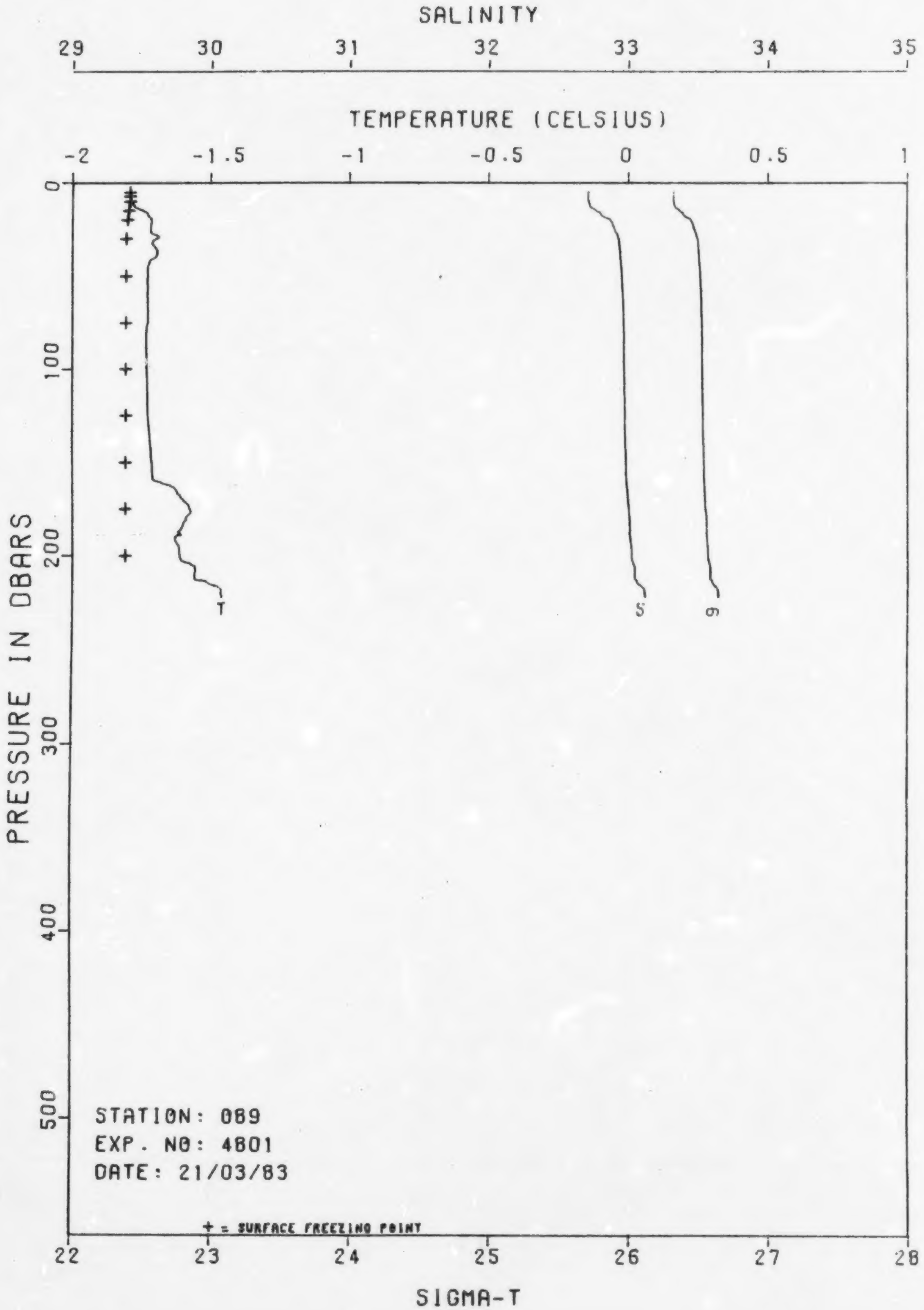
-1
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
29
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1
-0.5
0
0.5
1
PRESSURE IN DBARS
0
100
200
300
400
500
T
S
σ
STATION: 089
EXP. NO: 4801
DATE: 21/03/83
+ = SURFACE FREEZING POINT
22
23
24
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26
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28
SIGMA-T

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CRUISE 81[illegible]-83-022  ARCTIC ISLANDS-83   SITE 089   EXPERIMENT 4801

LAT.N. 74-49-41       LON.W.  96-45-35   DATE 21/ 3/83  G.M.T. 2044

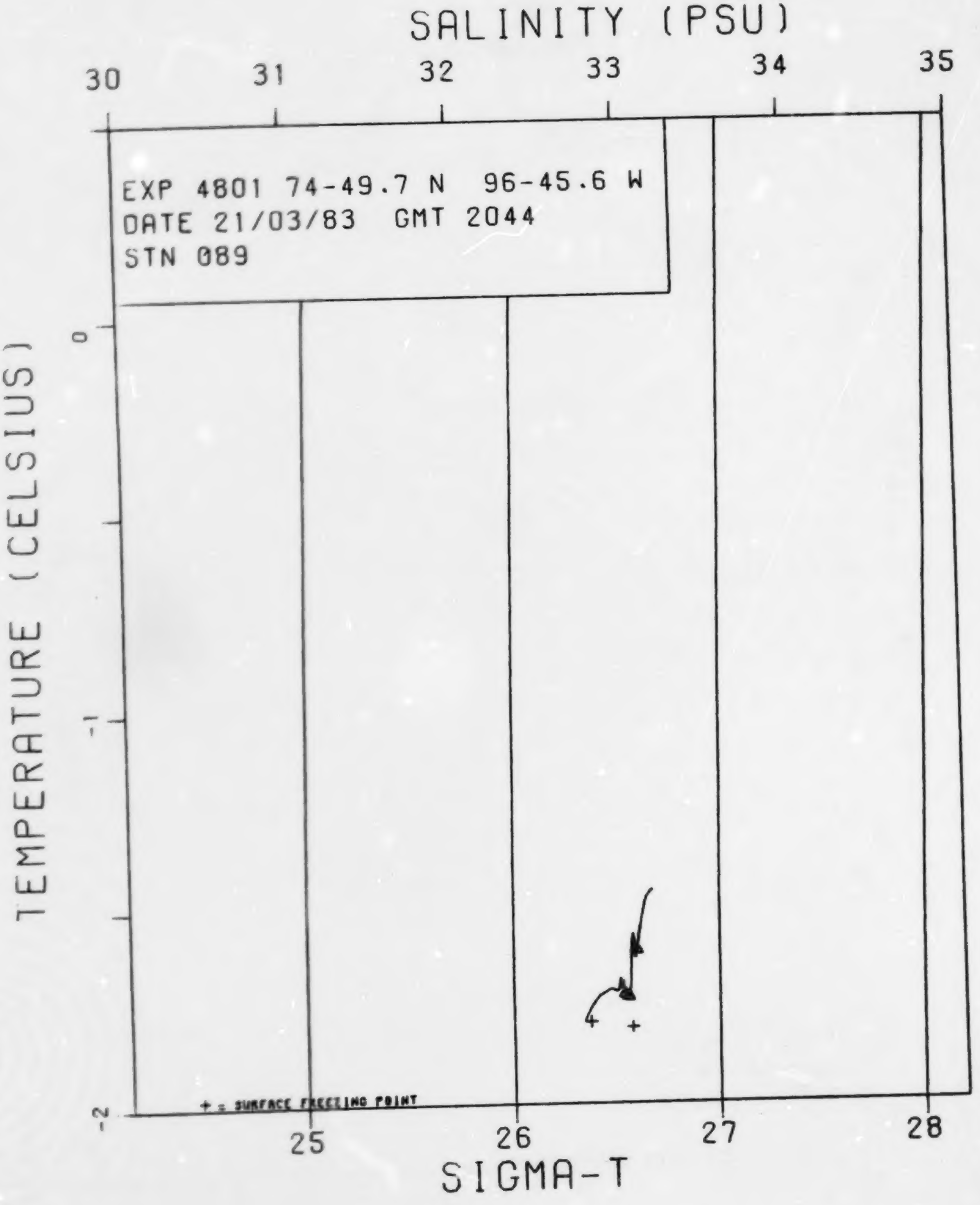
ICE THICKNESS    1.8 M           WATER DEPTH   222  M

PRESSURE     TEMP     COND. R  SALINITY  SIGMAT       DHA     SOUND
 (DBARS)   (DEG.C)                      (KG/M**3)  (DYN.M)   (M/S)

     5.1   -1.790     .60296    32.714    26.322      .009    1437.8
     6.0   -1.789     .60297    32.713    26.321      .010    1437.8
     7.0   -1.789     .60298    32.712    26.321      .012    1437.9
     8.0   -1.788     .60301    32.713    26.321      .014    1437.9
     9.0   -1.786     .60305    32.714    26.322      .015    1437.9
    10.0   -1.790     .60299    32.713    26.321      .017    1437.9
    11.0   -1.782     .60322    32.717    26.324      .019    1438.0
    12.0   -1.776     .60349    32.726    26.331      .020    1438.0
    13.0   -1.773     .60362    32.729    26.334      .022    1438.1
    14.0   -1.763     .60404    32.742    26.345      .024    1438.1
    15.0   -1.743     .60490    32.771    26.367      .025    1438.3
    16.0   -1.735     .60530    32.786    26.379      .027    1438.4
    17.0   -1.726     .60580    32.805    26.395      .029    1438.5
    18.0   -1.724     .60600    32.814    26.402      .030    1438.5
    19.0   -1.718     .60650    32.837    26.421      .032    1438.6
    20.0   -1.711     .60725    32.873    26.449      .033    1438.7
    21.0   -1.712     .60737    32.880    26.456      .035    1438.7
    22.0   -1.712     .60747    32.886    26.460      .036    1438.7
    23.0   -1.715     .60753    32.892    26.465      .038    1438.7
    24.0   -1.716     .60765    32.900    26.471      .040    1438.8
    25.0   -1.715     .60771    32.902    26.473      .041    1438.8
    27.5   -1.712     .60802    32.915    26.484      .045    1438.9
    30.0   -1.698     .60876    32.931    26.496      .049    1439.0
    32.5   -1.712     .60844    32.937    26.502      .053    1439.0
    35.0   -1.701     .60872    32.939    26.503      .056    1439.1
    37.5   -1.691     .60898    32.943    26.506      .060    1439.2
    40.0   -1.697     .60893    32.944    26.507      .064    1439.2
    42.5   -1.720     .60857    32.948    26.511      .068    1439.1
    45.0   -1.728     .60852    32.951    26.514      .072    1439.1
    47.5   -1.727     .60859    32.954    26.515      .075    1439.2
    50.0   -1.726     .60866    32.955    26.516      .079    1439.2
    55.0   -1.728     .60872    32.958    26.519      .087    1439.3
    60.0   -1.729     .60881    32.962    26.522      .094    1439.4
    65.0   -1.726     .60896    32.964    26.524      .101    1439.5
    70.0   -1.725     .60905    32.965    26.524      .109    1439.6
    75.0   -1.726     .60912    32.967    26.526      .116    1439.6
    80.0   -1.733     .60909    32.969    26.528      .124    1439.7
    85.0   -1.733     .60914    32.969    26.528      .131    1439.8
    90.0   -1.732     .60922    32.970    26.529      .139    1439.9
    95.0   -1.732     .60928    32.970    26.529      .146    1439.9
   100.0   -1.732     .60937    32.972    26.531      .154    1440.0
   105.0   -1.730     .60946    32.973    26.532      .161    1440.1
   110.0   -1.730     .60952    32.974    26.532      .168    1440.2
   115.0   -1.729     .60964    32.976    26.534      .176    1440.3
```

SITE OR9 EXPERIMENT 4801

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.729	.60971	32.977	26.535	.183	1440.4
125.0	-1.728	.60976	32.976	26.534	.191	1440.5
130.0	-1.725	.60991	32.979	26.536	.198	1440.6
135.0	-1.722	.61005	32.980	26.537	.205	1440.7
140.0	-1.719	.61019	32.982	26.538	.213	1440.8
145.0	-1.715	.61033	32.983	26.539	.220	1440.9
150.0	-1.713	.61043	32.984	26.540	.228	1441.0
155.0	-1.712	.61052	32.985	26.541	.235	1441.0
160.0	-1.704	.61075	32.987	26.542	.242	1441.2
165.0	-1.624	.61240	32.993	26.545	.250	1441.6
170.0	-1.600	.61301	32.999	26.549	.257	1441.8
175.0	-1.577	.61357	33.004	26.552	.264	1442.0
180.0	-1.593	.61346	33.012	26.560	.272	1442.1
185.0	-1.636	.61330	33.014	26.562	.279	1442.1
190.0	-1.631	.61295	33.018	26.565	.286	1442.0
195.0	-1.626	.61341	33.025	26.571	.293	1442.2
200.0	-1.613	.61354	33.027	26.572	.300	1442.3
210.0	-1.561	.61497	33.048	26.588	.315	1442.7
220.0	-1.463	.61811	33.119	26.643	.329	1443.5
222.2	-1.463	.61832	33.129	26.651	.332	1443.5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EXP 4801 74-49.7 N 96-45.6 W
DATE 21/03/83 GMT 2044
STN 089
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+ = SURFACE FREEZING POINT
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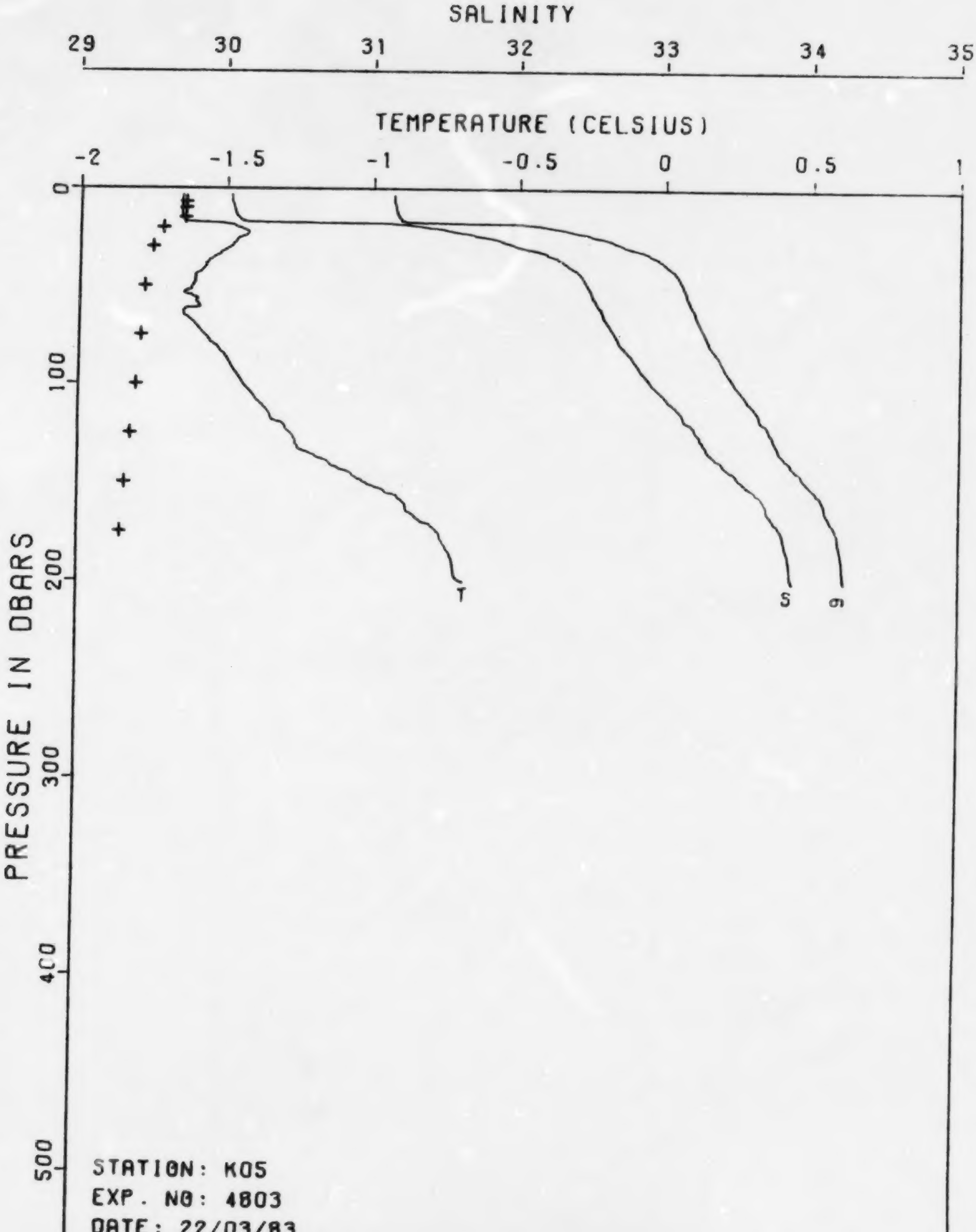
26
27
28
SIGMA-T


SALINITY
29
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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0.5
1
PRESSURE IN DBARS
0
100
200
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400
500
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σ
STATION: K05
EXP. NO: 4803
DATE: 22/03/83
+ = SURFACE FREEZING POINT
22
23
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27
28
SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE K05   EXPERIMENT 4803

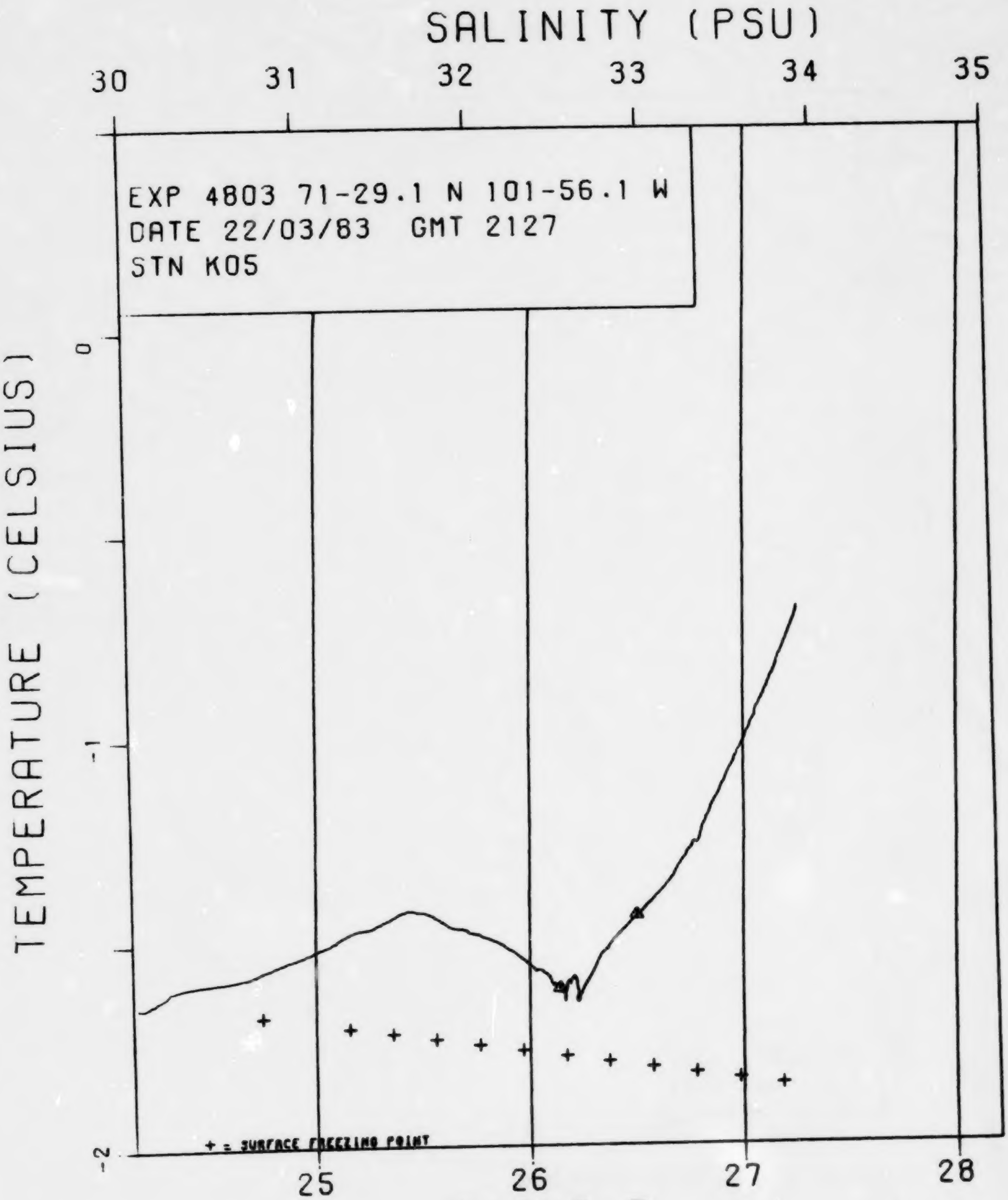
LAT.N. 71-29- 5   LON.W. 101-56- 5   DATE 22/ 3/83   G.M.T. 2127

ICE THICKNESS   1.8 M   WATER DEPTH   201   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
3.7	-1.653	.56002	30.028	24.137	.014	1434.7
4.0	-1.654	.56003	30.029	24.138	.015	1434.7
5.0	-1.654	.56009	30.031	24.140	.019	1434.7
6.0	-1.654	.56002	30.027	24.137	.023	1434.7
7.0	-1.654	.56005	30.029	24.138	.026	1434.7
8.0	-1.655	.56020	30.038	24.145	.030	1434.8
9.0	-1.655	.56033	30.045	24.151	.034	1434.8
10.0	-1.654	.56038	30.046	24.152	.038	1434.8
11.0	-1.654	.56044	30.049	24.155	.041	1434.8
12.0	-1.655	.56051	30.054	24.158	.045	1434.8
13.0	-1.655	.56065	30.061	24.164	.049	1434.9
14.0	-1.654	.56071	30.063	24.166	.053	1434.9
15.0	-1.650	.56102	30.078	24.178	.056	1435.0
16.0	-1.649	.56128	30.091	24.188	.060	1435.0
17.0	-1.641	.56209	30.130	24.220	.064	1435.1
18.0	-1.513	.58063	31.087	24.955	.067	1437.1
19.0	-1.472	.58483	31.290	25.158	.070	1437.6
20.0	-1.466	.58654	31.383	25.234	.073	1437.7
21.0	-1.441	.58877	31.488	25.318	.076	1438.0
22.0	-1.427	.59000	31.544	25.364	.078	1438.2
23.0	-1.427	.59181	31.649	25.449	.081	1438.4
24.0	-1.430	.59259	31.698	25.489	.083	1438.4
25.0	-1.448	.59364	31.778	25.555	.086	1438.5
27.5	-1.468	.59540	31.902	25.655	.092	1438.6
30.0	-1.482	.59685	32.001	25.736	.097	1438.7
32.5	-1.513	.59889	32.153	25.860	.103	1438.8
35.0	-1.539	.59998	32.244	25.935	.108	1438.8
37.5	-1.561	.60056	32.300	25.981	.113	1438.9
40.0	-1.567	.60121	32.344	26.017	.118	1438.9
42.5	-1.585	.60189	32.403	26.065	.123	1439.0
45.0	-1.609	.60196	32.431	26.088	.128	1438.9
47.5	-1.605	.60236	32.449	26.103	.132	1439.0
50.0	-1.616	.60250	32.468	26.118	.137	1439.0
55.0	-1.615	.60315	32.502	26.146	.147	1439.2
60.0	-1.589	.60435	32.541	26.177	.156	1439.4
65.0	-1.645	.60393	32.575	26.206	.165	1439.3
70.0	-1.600	.60557	32.620	26.241	.174	1439.7
75.0	-1.571	.60685	32.661	26.274	.182	1439.9
80.0	-1.537	.60819	32.700	26.305	.191	1440.2
85.0	-1.502	.61003	32.767	26.358	.199	1440.6
90.0	-1.482	.61125	32.814	26.396	.207	1440.8
95.0	-1.459	.61261	32.866	26.437	.215	1441.1
100.0	-1.436	.61395	32.916	26.478	.223	1441.3
105.0	-1.406	.61586	32.993	26.539	.231	1441.7

SITE KOS   EXPERIMENT 4803

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMA T (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
110.0	-1.376	.61759	33.058	26.592	.238	1442.0
115.0	-1.346	.61924	33.119	26.640	.245	1442.3
120.0	-1.301	.62124	33.184	26.691	.252	1442.7
125.0	-1.273	.62259	33.229	26.727	.258	1443.0
130.0	-1.260	.62347	33.264	26.755	.265	1443.2
135.0	-1.207	.62545	33.318	26.797	.271	1443.6
140.0	-1.139	.62813	33.397	26.859	.277	1444.1
145.0	-1.065	.63107	33.483	26.926	.283	1444.6
150.0	-1.013	.63318	33.545	26.975	.288	1445.0
155.0	-.933	.63605	33.620	27.033	.294	1445.6
160.0	-.882	.63816	33.683	27.082	.298	1446.0
165.0	-.859	.63911	33.709	27.102	.303	1446.2
170.0	-.805	.64108	33.760	27.141	.308	1446.6
175.0	-.765	.64263	33.802	27.174	.312	1447.0
180.0	-.753	.64316	33.817	27.185	.317	1447.1
185.0	-.728	.64401	33.835	27.199	.321	1447.3
190.0	-.718	.64448	33.848	27.209	.325	1447.5
195.0	-.713	.64468	33.851	27.211	.329	1447.6
199.7	-.682	.64573	33.873	27.226	.333	1447.9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DATE 22/03/83 GMT 2127
STN K05
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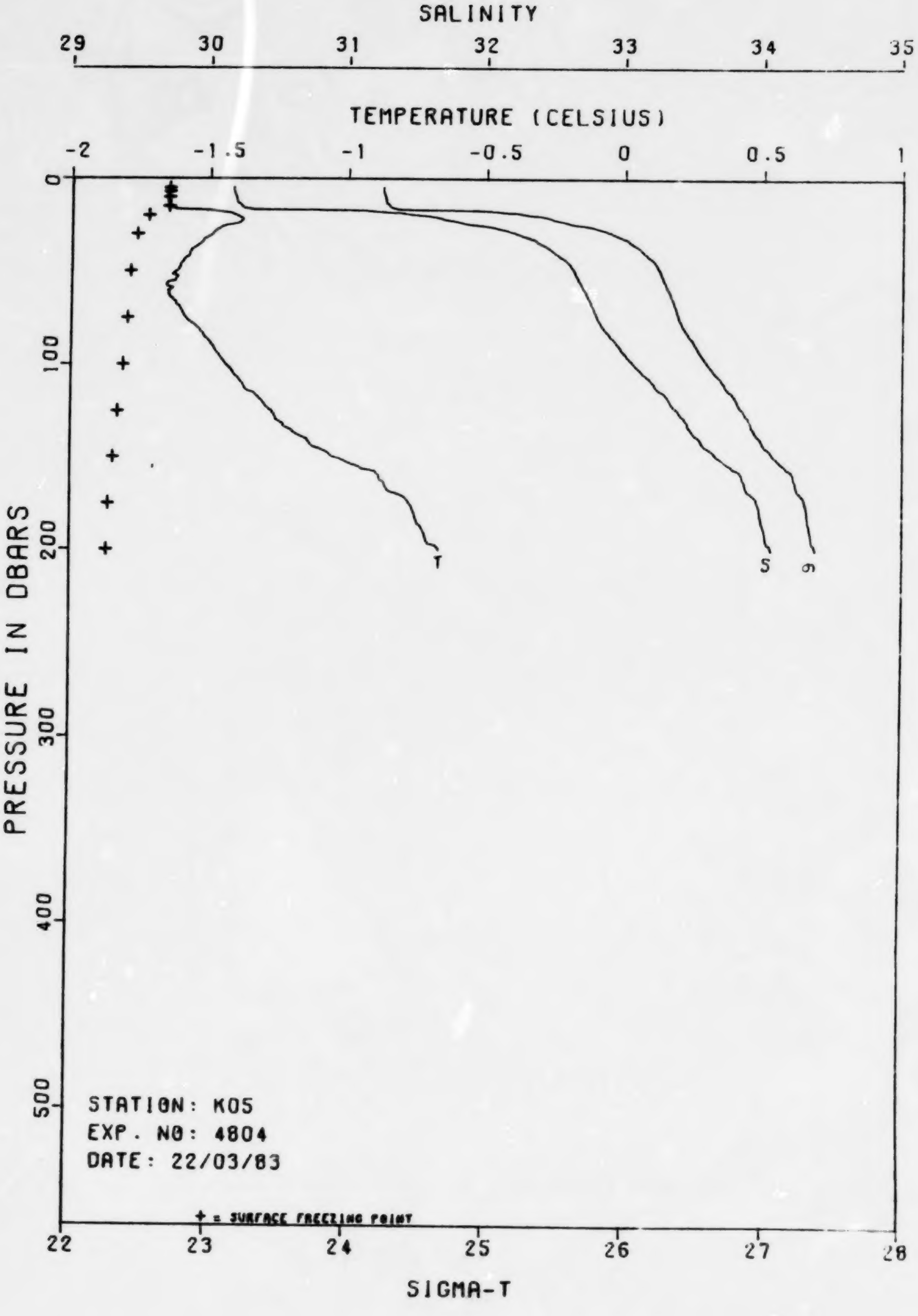
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
29
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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0.5
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PRESSURE IN DBARS
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STATION: K05
EXP. NO: 4804
DATE: 22/03/83
+ = SURFACE FREEZING POINT
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28
SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE K05 EXPERIMENT 4804

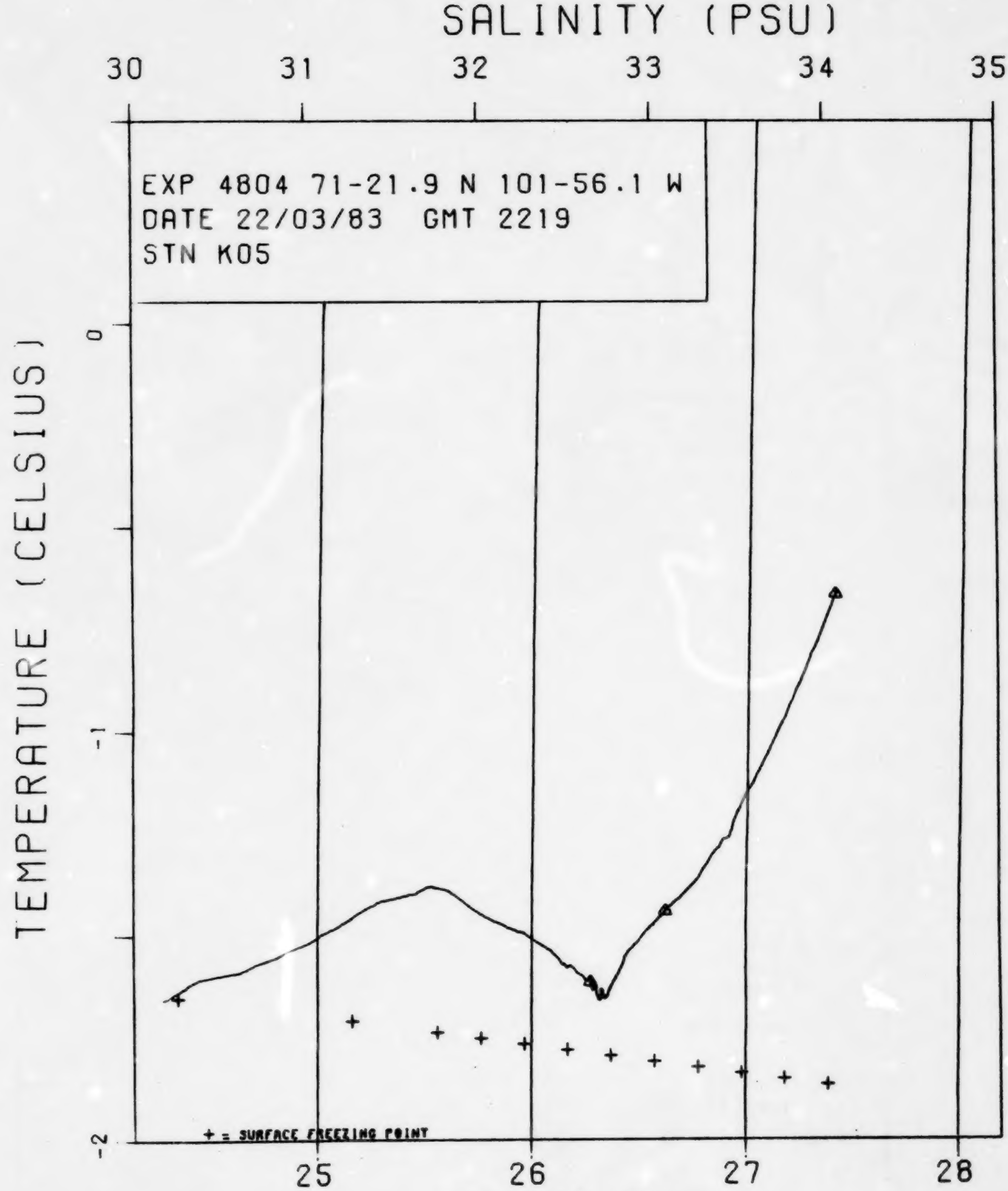
LAT.N. 71-21-54 LON.W. 101-56- 5 DATE 22/ 3/83 G.M.T. 2219

ICE THICKNESS 1.2 M WATER DEPTH 201 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.656	.56232	30.165	24.249	.017	1434.9
5.0	-1.656	.56232	30.166	24.249	.018	1434.9
6.0	-1.655	.56233	30.165	24.248	.022	1434.9
7.0	-1.655	.56237	30.166	24.249	.026	1434.9
8.0	-1.655	.56250	30.173	24.255	.029	1435.0
9.0	-1.655	.56258	30.178	24.259	.033	1435.0
10.0	-1.654	.56271	30.183	24.263	.037	1435.0
11.0	-1.653	.56283	30.189	24.268	.040	1435.0
12.0	-1.654	.56285	30.191	24.269	.044	1435.0
13.0	-1.653	.56290	30.191	24.270	.048	1435.1
14.0	-1.646	.56345	30.216	24.290	.051	1435.2
15.0	-1.643	.56370	30.227	24.299	.055	1435.2
16.0	-1.676	.56412	30.246	24.314	.058	1435.3
17.0	-1.543	.57626	30.862	24.812	.062	1436.6
18.0	-1.462	.58411	31.238	25.116	.065	1437.5
19.0	-1.416	.58790	31.413	25.257	.068	1438.0
20.0	-1.405	.59036	31.543	25.363	.070	1438.3
21.0	-1.391	.59233	31.644	25.444	.073	1438.5
22.0	-1.381	.59327	31.687	25.479	.075	1438.6
23.0	-1.385	.59450	31.763	25.540	.078	1438.7
24.0	-1.397	.59545	31.831	25.596	.080	1438.8
25.0	-1.433	.59675	31.946	25.690	.082	1438.8
27.5	-1.473	.59899	32.118	25.831	.088	1438.9
30.0	-1.492	.60046	32.225	25.918	.093	1439.0
32.5	-1.519	.60175	32.328	26.003	.098	1439.0
35.0	-1.533	.60244	32.383	26.048	.103	1439.1
37.5	-1.556	.60313	32.449	26.102	.108	1439.1
40.0	-1.575	.60350	32.488	26.134	.113	1439.1
42.5	-1.581	.60418	32.534	26.171	.117	1439.2
45.0	-1.600	.60471	32.584	26.212	.122	1439.2
47.5	-1.607	.60506	32.611	26.234	.126	1439.2
50.0	-1.617	.60527	32.633	26.252	.131	1439.3
55.0	-1.627	.60564	32.663	26.277	.139	1439.3
60.0	-1.652	.60594	32.705	26.311	.148	1439.4
65.0	-1.630	.60696	32.739	26.339	.156	1439.6
70.0	-1.676	.60801	32.773	26.366	.165	1439.8
75.0	-1.597	.60896	32.797	26.385	.173	1440.1
80.0	-1.548	.61033	32.838	26.417	.181	1440.4
85.0	-1.521	.61161	32.893	26.461	.189	1440.7
90.0	-1.489	.61354	32.957	26.512	.196	1441.0
95.0	-1.466	.61489	33.008	26.553	.204	1441.3
100.0	-1.442	.61638	33.066	26.600	.211	1441.5
105.0	-1.413	.61806	33.130	26.651	.218	1441.8
110.0	-1.383	.61995	33.265	26.711	.225	1442.2

SITE K05 EXPERIMENT 4604

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.343	.62193	33.275	26.766	.231	1442.5
120.0	-1.309	.62351	33.326	26.807	.237	1442.9
125.0	-1.273	.62530	33.389	26.856	.243	1443.2
130.0	-1.258	.62642	33.434	26.893	.249	1443.4
135.0	-1.205	.62818	33.476	26.925	.255	1443.8
140.0	-1.146	.63042	33.540	26.975	.260	1444.2
145.0	-1.103	.63234	33.600	27.022	.266	1444.6
150.0	-1.042	.63483	33.674	27.080	.271	1445.1
155.0	-.958	.63814	33.769	27.154	.275	1445.7
160.0	-.885	.64089	33.844	27.213	.280	1446.2
165.0	-.864	.64173	33.867	27.230	.284	1446.4
170.0	-.810	.64370	33.918	27.269	.288	1446.8
175.0	-.774	.64514	33.958	27.300	.292	1447.1
180.0	-.755	.64585	33.975	27.313	.295	1447.3
185.0	-.746	.64620	33.983	27.319	.299	1447.5
190.0	-.722	.64716	34.008	27.338	.303	1447.7
195.0	-.713	.64759	34.016	27.345	.306	1447.8
200.0	-.666	.64922	34.057	27.376	.310	1448.2
200.1	-.666	.64922	34.058	27.376	.310	1448.2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EXP 4804 71-21.9 N 101-56.1 W
DATE 22/03/83 GMT 2219
STN K05
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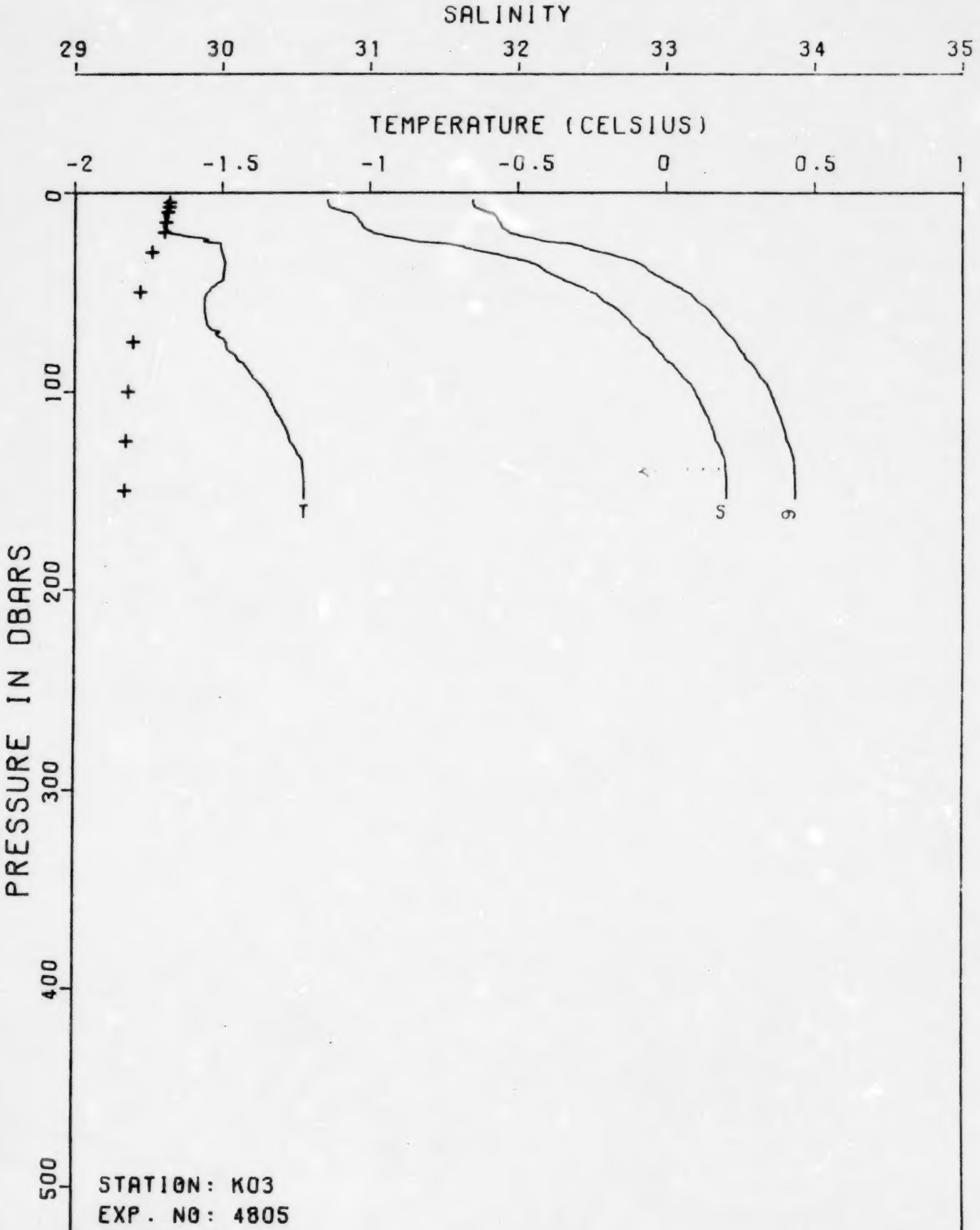
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
29
30
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32
33
34
35
TEMPERATURE (CELSIUS)
-2
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-1
-0.5
0
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1
PRESSURE IN DBARS
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100
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STATION: K03
EXP. N0: 4805
DATE: 23/03/83
+ = SURFACE FREEZING POINT
22
23
24
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28
SIGMA-T

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CRUISE 015-83-022  ARCTIC ISLANDS-83   SITE KC3   EXPERIMENT 4805

LAT.N. 71-10-36      LON.W.  98-15-23   DATE 23/ 3/83  G.M.T.   14

ICE THICKNESS   1.9 M           WATER DEPTH   156  M


PRESSURE     TEMP      COND. R   SALINITY  SIGMAT       DHA     SOUND
 (DBARS)   (DEG.C)                        (KG/M**3)  (DYN.M)   (M/S)

     3.0    -1.687     .57113    30.716    24.697      .012    1435.5
     4.0    -1.686     .57112    30.715    24.696      .013    1435.5
     5.0    -1.687     .57116    30.717    24.698      .016    1435.5
     6.0    -1.687     .57115    30.717    24.697      .019    1435.5
     7.0    -1.689     .57135    30.730    24.708      .023    1435.6
     8.0    -1.692     .57160    30.737    24.714      .026    1435.6
     9.0    -1.689     .57247    30.795    24.761      .029    1435.7
    10.0    -1.693     .57312    30.837    24.795      .032    1435.7
    11.0    -1.698     .57396    30.892    24.839      .035    1435.8
    12.0    -1.696     .57416    30.902    24.848      .038    1435.8
    13.0    -1.693     .57457    30.920    24.862      .042    1435.9
    14.0    -1.692     .57465    30.923    24.865      .045    1435.9
    15.0    -1.691     .57480    30.930    24.871      .048    1436.0
    16.0    -1.697     .57500    30.948    24.885      .051    1436.0
    17.0    -1.699     .57506    30.954    24.890      .054    1436.0
    18.0    -1.700     .57519    30.961    24.896      .057    1436.0
    19.0    -1.695     .57588    30.986    24.916      .060    1436.1
    20.0    -1.684     .57636    31.013    24.938      .063    1436.2
    21.0    -1.656     .57744    31.047    24.965      .066    1436.4
    22.0    -1.630     .57897    31.109    25.014      .069    1436.6
    23.0    -1.574     .58131    31.187    25.077      .072    1437.0
    24.0    -1.544     .58315    31.264    25.139      .075    1437.3
    25.0    -1.560     .58427    31.345    25.205      .077    1437.3
    27.5    -1.505     .59027    31.639    25.443      .084    1438.0
    30.0    -1.501     .59248    31.764    25.544      .090    1438.3
    32.5    -1.495     .59536    31.925    25.675      .096    1438.6
    35.0    -1.490     .59796    32.072    25.793      .102    1438.8
    37.5    -1.491     .59921    32.146    25.854      .107    1439.0
    40.0    -1.494     .59992    32.189    25.889      .112    1439.1
    42.5    -1.495     .60115    32.261    25.948      .117    1439.2
    45.0    -1.506     .60217    32.331    26.005      .122    1439.3
    47.5    -1.530     .60314    32.414    26.072      .127    1439.3
    50.0    -1.546     .60398    32.479    26.125      .132    1439.4
    55.0    -1.561     .60552    32.583    26.210      .141    1439.6
    60.0    -1.560     .60738    32.689    26.297      .150    1439.8
    65.0    -1.553     .60872    32.759    26.353      .158    1440.0
    70.0    -1.505     .61065    32.816    26.398      .167    1440.4
    75.0    -1.494     .61232    32.899    26.465      .174    1440.6
    80.0    -1.477     .61349    32.947    26.504      .182    1440.9
    85.0    -1.440     .61526    33.008    26.552      .190    1441.2
    90.0    -1.409     .61719    33.083    26.612      .197    1441.5
    95.0    -1.379     .61878    33.141    26.659      .204    1441.9
   100.0    -1.351     .62028    33.196    26.702      .210    1442.1
   105.0    -1.333     .62119    33.225    26.726      .217    1442.4
```
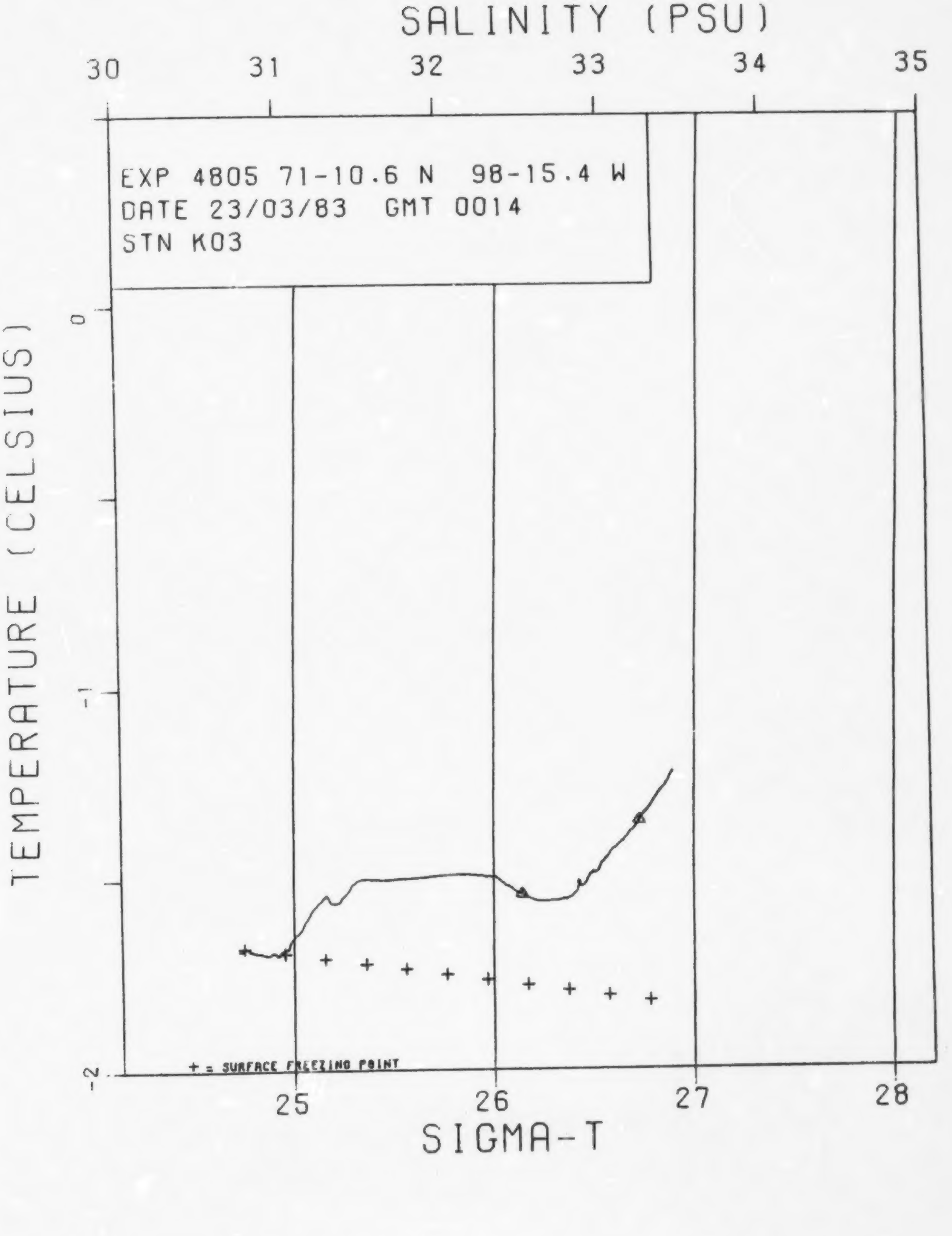

SITE K03 EXPERIMENT 4805

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
110.0	-1.318	.62207	33.258	26.752	.223	1442.5
115.0	-1.297	.62311	33.293	26.779	.230	1442.8
120.0	-1.279	.62390	33.317	26.798	.236	1443.0
125.0	-1.271	.62441	33.335	26.813	.242	1443.1
130.0	-1.249	.62557	33.374	26.844	.248	1443.4
135.0	-1.229	.62635	33.396	26.861	.254	1443.6
140.0	-1.227	.62651	33.399	26.863	.260	1443.7
145.0	-1.224	.62665	33.401	26.865	.266	1443.8
150.0	-1.225	.62676	33.406	26.869	.271	1443.8
154.5	-1.224	.62681	33.405	26.868	.277	1443.9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33
34
35
EXP 4805 71-10.6 N 98-15.4 W
DATE 23/03/83 GMT 0014
STN K03
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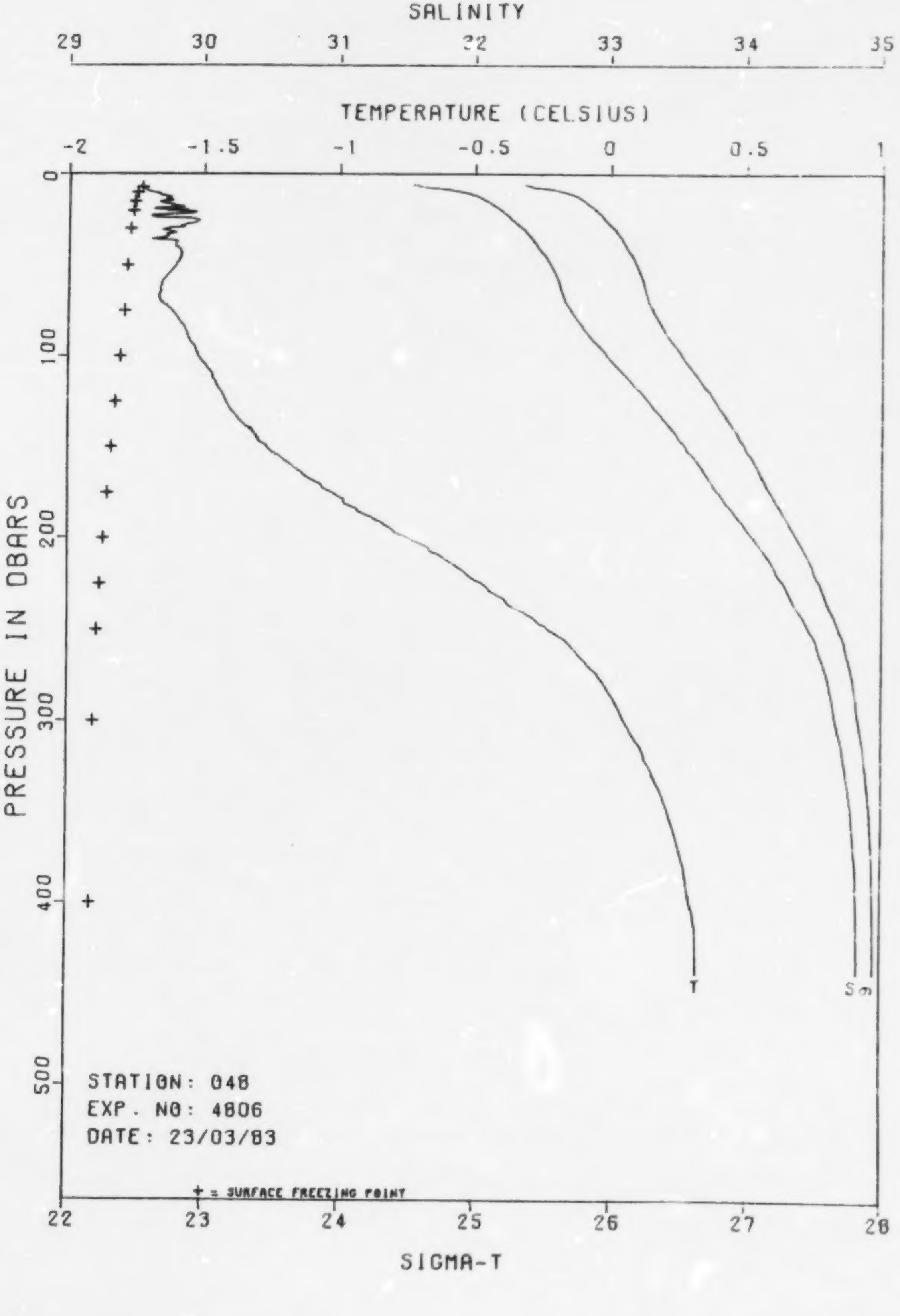
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
29
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
-2
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-1
-0.5
0
0.5
1
PRESSURE IN DBARS
0
100
200
300
400
500
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S
σ
STATION: 048
EXP. NO: 4806
DATE: 23/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE 048 EXPERIMENT 4806

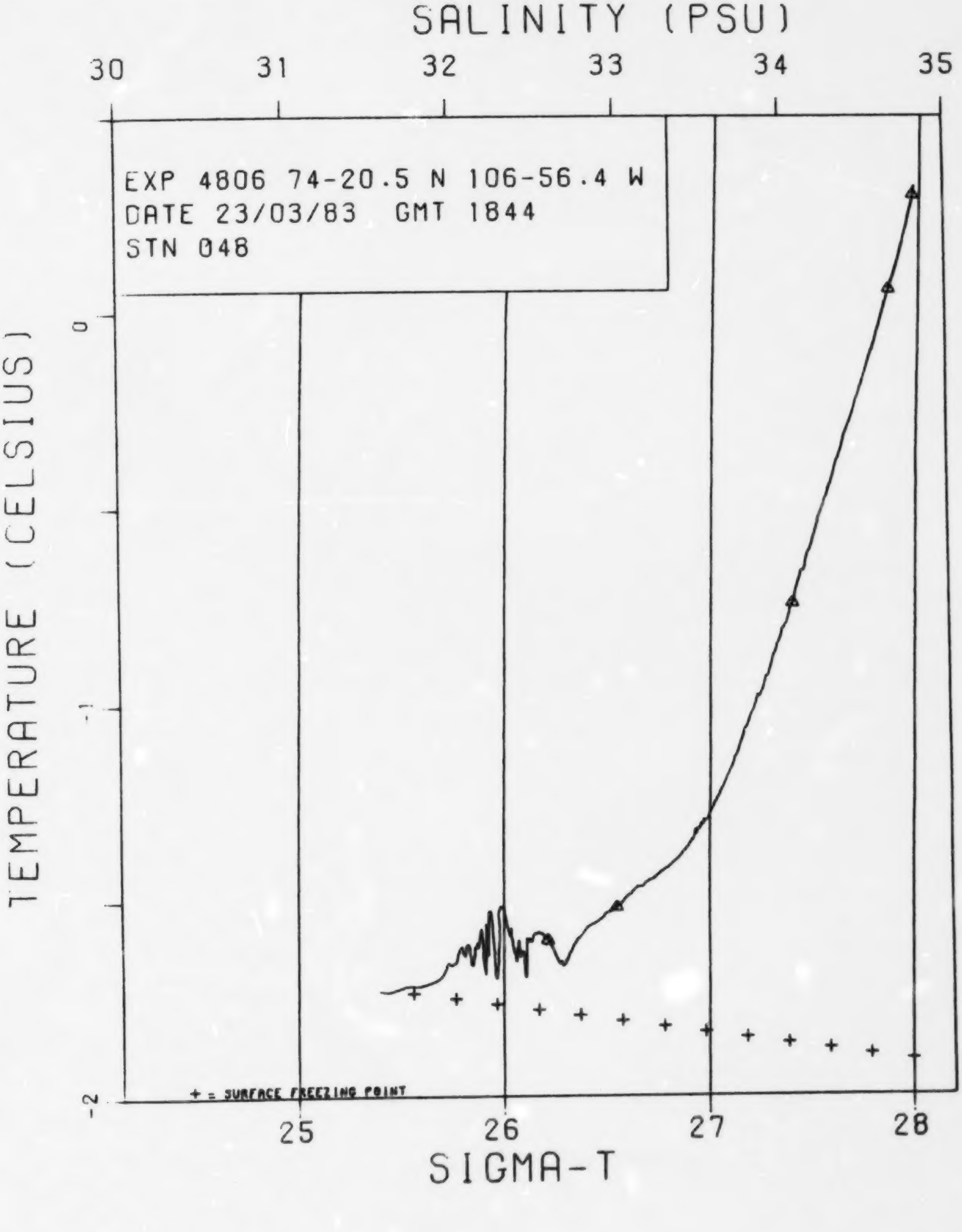
LAT.N. 74-27-30 LON.W. 106-56-24 DATE 23/ 3/83 G.M.T. 1844

ICE THICKNESS 1.6 M WATER DEPTH 436 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
5.0	-1.731	.58434	31.543	25.369	.016	1436.5
6.0	-1.733	.58444	31.550	25.375	.016	1436.5
7.0	-1.732	.58547	31.610	25.424	.019	1436.6
8.0	-1.719	.58794	31.742	25.530	.021	1436.8
9.0	-1.711	.58976	31.841	25.611	.024	1437.0
10.0	-1.695	.59132	31.915	25.671	.026	1437.2
11.0	-1.661	.59278	31.964	25.710	.028	1437.5
12.0	-1.646	.59379	32.009	25.747	.031	1437.6
13.0	-1.616	.59485	32.040	25.770	.033	1437.8
14.0	-1.642	.59473	32.058	25.786	.035	1437.8
15.0	-1.660	.59499	32.092	25.814	.037	1437.7
16.0	-1.648	.59549	32.108	25.827	.039	1437.8
17.0	-1.622	.59627	32.126	25.841	.042	1438.0
18.0	-1.595	.59738	32.151	25.860	.044	1438.2
19.0	-1.679	.59607	32.174	25.881	.046	1437.8
20.0	-1.677	.59760	32.186	25.889	.048	1438.2
21.0	-1.528	.59937	32.204	25.902	.050	1438.6
22.0	-1.579	.59677	32.223	25.919	.052	1438.4
23.0	-1.699	.59687	32.241	25.936	.054	1437.9
24.0	-1.662	.59780	32.255	25.946	.056	1438.1
25.0	-1.528	.60039	32.262	25.949	.058	1438.8
27.5	-1.557	.60066	32.308	25.987	.063	1438.7
30.0	-1.637	.60000	32.355	26.027	.068	1438.5
32.5	-1.632	.60110	32.380	26.047	.073	1438.7
35.0	-1.642	.60089	32.410	26.072	.078	1438.6
37.5	-1.604	.60202	32.434	26.090	.083	1438.8
40.0	-1.679	.60240	32.460	26.111	.088	1438.9
42.5	-1.588	.60319	32.483	26.130	.092	1439.1
45.0	-1.598	.60379	32.517	26.157	.097	1439.2
47.5	-1.592	.60404	32.535	26.172	.101	1439.2
50.0	-1.633	.60421	32.555	26.189	.106	1439.2
55.0	-1.631	.60436	32.592	26.219	.115	1439.2
60.0	-1.657	.60437	32.618	26.241	.124	1439.2
65.0	-1.654	.60482	32.638	26.258	.133	1439.3
70.0	-1.660	.60521	32.665	26.279	.141	1439.4
75.0	-1.617	.60681	32.709	26.314	.150	1439.8
80.0	-1.592	.60809	32.755	26.351	.158	1440.1
85.0	-1.569	.60933	32.799	26.386	.166	1440.3
90.0	-1.556	.61051	32.852	26.429	.174	1440.5
95.0	-1.532	.61219	32.922	26.485	.182	1440.8
100.0	-1.520	.61334	32.974	26.527	.190	1441.0
105.0	-1.491	.61501	33.037	26.577	.197	1441.3
110.0	-1.466	.61664	33.103	26.630	.204	1441.6
115.0	-1.455	.61792	33.163	26.679	.211	1441.8

SITE 048 EXPERIMENT 4806

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.433	.61956	33.232	26.734	.218	1442.1
125.0	-1.418	.62082	33.286	26.778	.224	1442.4
130.0	-1.396	.62214	33.337	26.818	.230	1442.6
135.0	-1.370	.62368	33.395	26.864	.236	1442.9
140.0	-1.329	.62539	33.447	26.906	.242	1443.3
145.0	-1.303	.62676	33.497	26.945	.247	1443.5
150.0	-1.266	.62850	33.554	26.990	.253	1443.9
155.0	-1.218	.63039	33.608	27.032	.258	1444.2
160.0	-1.175	.63213	33.658	27.072	.263	1444.6
165.0	-1.134	.63367	33.700	27.105	.268	1444.9
170.0	-1.074	.63567	33.746	27.140	.272	1445.4
175.0	-1.023	.63750	33.794	27.177	.277	1445.7
180.0	-.985	.63912	33.841	27.214	.281	1446.1
185.0	-.932	.64114	33.897	27.257	.285	1446.5
190.0	-.865	.64333	33.947	27.294	.289	1446.9
195.0	-.805	.64540	33.996	27.332	.293	1447.4
200.0	-.744	.64762	34.053	27.376	.296	1447.8
210.0	-.619	.65181	34.148	27.448	.303	1448.7
220.0	-.524	.65593	34.222	27.503	.309	1449.4
230.0	-.425	.65856	34.309	27.569	.314	1450.2
240.0	-.318	.66210	34.384	27.624	.319	1450.9
250.0	-.220	.66549	34.460	27.682	.323	1451.6
260.0	-.136	.66837	34.524	27.729	.327	1452.3
270.0	-.072	.67057	34.572	27.765	.330	1452.8
280.0	-.018	.67241	34.610	27.793	.333	1453.3
290.0	.023	.67384	34.639	27.813	.336	1453.7
300.0	.056	.67501	34.661	27.830	.339	1454.0
310.0	.096	.67646	34.693	27.853	.341	1454.4
320.0	.126	.67765	34.719	27.872	.343	1454.7
330.0	.159	.67869	34.736	27.884	.346	1455.1
340.0	.192	.67984	34.758	27.900	.348	1455.4
350.0	.216	.68070	34.773	27.911	.349	1455.7
360.0	.237	.68146	34.787	27.921	.351	1456.0
370.0	.257	.68212	34.795	27.927	.353	1456.3
380.0	.274	.68281	34.809	27.937	.355	1456.5
390.0	.285	.68322	34.814	27.940	.356	1456.7
400.0	.297	.68362	34.817	27.942	.358	1457.0
425.0	.317	.68443	34.825	27.947	.362	1457.5
438.5	.319	.68461	34.825	27.947	.364	1457.7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DATE 23/03/83 GMT 1844
STN 048
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-2
+ = SURFACE FREEZING POINT
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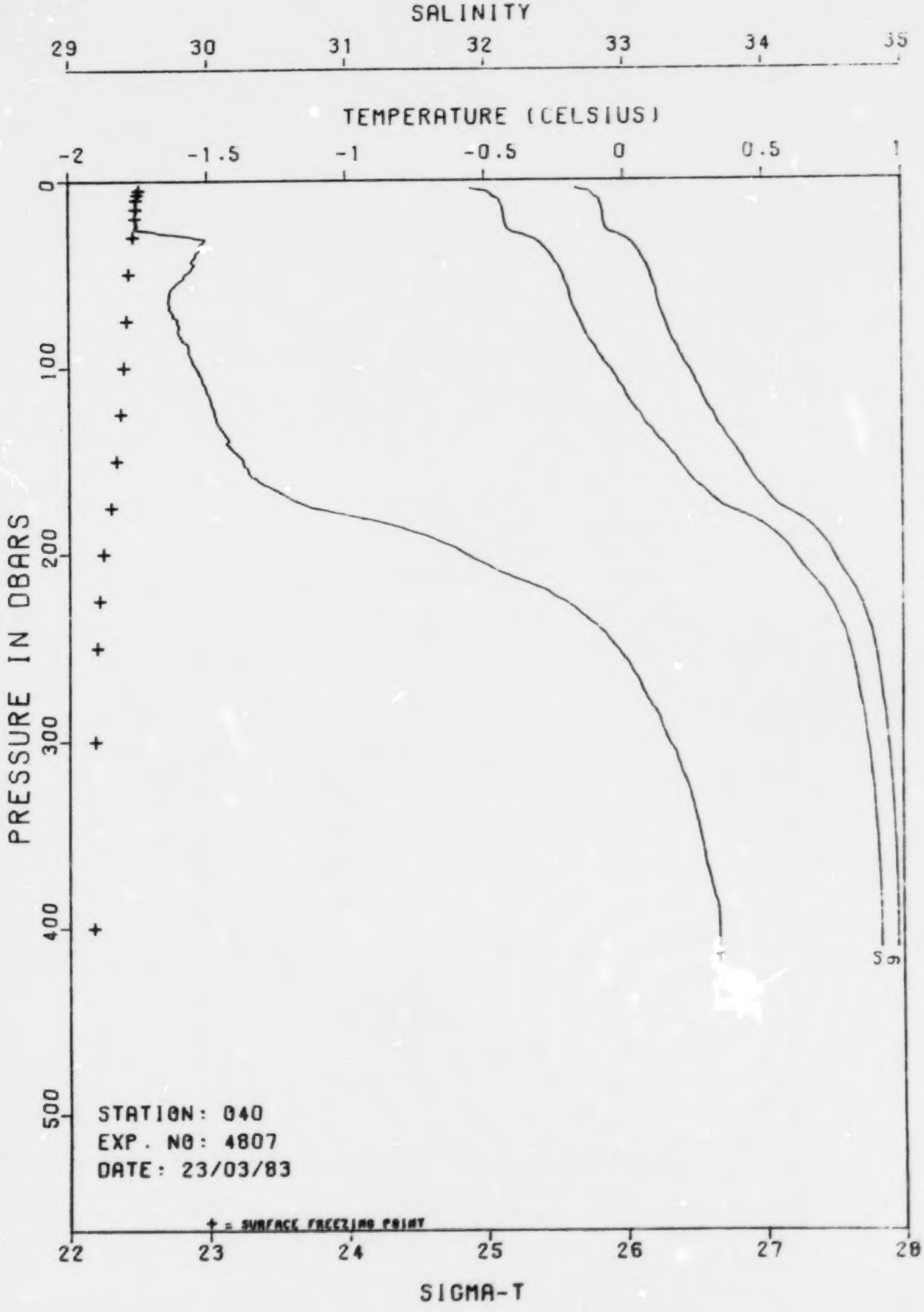
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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PRESSURE IN DBARS
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100
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STATION: 040
EXP. NO: 4807
DATE: 23/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE C15-83-022   ARCTIC ISLANDS-83   SITE 040   EXPERIMENT 4807

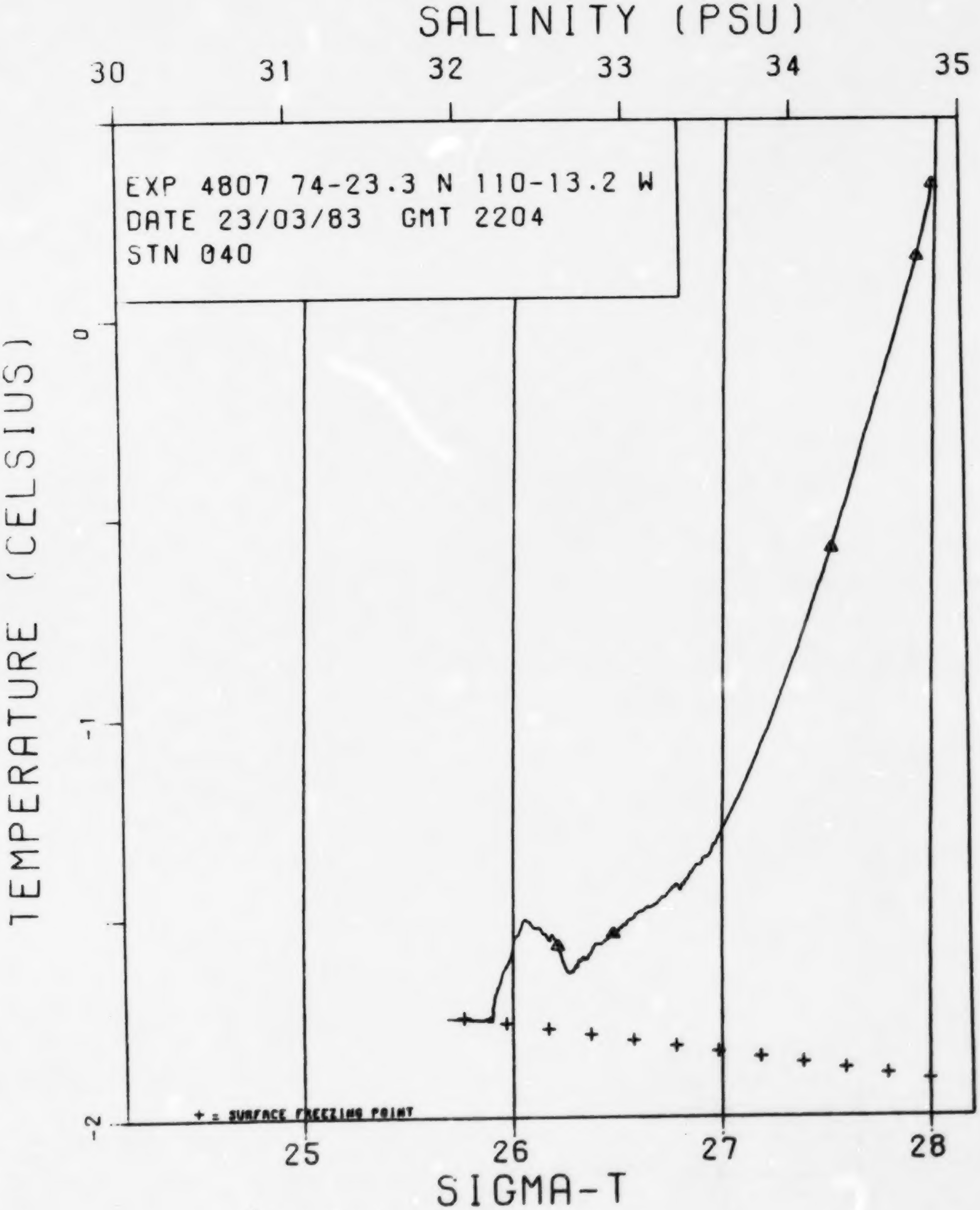
LAT.N. 74-23-17   LON.W. 110-13-12   DATE 23/ 3/83   G.M.T. 2204

ICE THICKNESS   1.9 M   WATER DEPTH   411   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.5	-1.753	.59004	31.905	25.664	.011	1436.9
5.0	-1.754	.59032	31.922	25.678	.012	1436.9
6.0	-1.755	.59187	32.016	25.754	.014	1437.0
7.0	-1.755	.59220	32.034	25.769	.017	1437.1
8.0	-1.757	.59249	32.053	25.784	.019	1437.1
9.0	-1.757	.59265	32.062	25.791	.021	1437.1
10.0	-1.758	.59322	32.095	25.819	.023	1437.2
11.0	-1.758	.59351	32.112	25.832	.025	1437.2
12.0	-1.757	.59360	32.117	25.836	.027	1437.3
13.0	-1.757	.59366	32.121	25.839	.030	1437.3
14.0	-1.755	.59383	32.126	25.844	.032	1437.3
15.0	-1.752	.59395	32.130	25.847	.034	1437.3
16.0	-1.753	.59401	32.134	25.850	.036	1437.4
17.0	-1.756	.59406	32.139	25.854	.038	1437.4
18.0	-1.760	.59401	32.141	25.856	.040	1437.4
19.0	-1.761	.59404	32.143	25.857	.042	1437.4
20.0	-1.760	.59407	32.143	25.858	.045	1437.4
21.0	-1.757	.59415	32.144	25.858	.047	1437.4
22.0	-1.756	.59424	32.147	25.861	.049	1437.5
23.0	-1.750	.59439	32.149	25.862	.051	1437.5
24.0	-1.759	.59435	32.155	25.867	.053	1437.5
25.0	-1.761	.59442	32.161	25.872	.055	1437.5
27.5	-1.698	.59627	32.191	25.895	.060	1437.9
30.0	-1.562	.60042	32.299	25.979	.066	1438.7
32.5	-1.577	.60278	32.377	26.042	.071	1439.1
35.0	-1.528	.60317	32.420	26.077	.075	1439.2
37.5	-1.526	.60371	32.449	26.101	.080	1439.2
40.0	-1.542	.60391	32.477	26.124	.085	1439.2
42.5	-1.554	.60409	32.499	26.142	.090	1439.3
45.0	-1.544	.60468	32.521	26.160	.094	1439.4
47.5	-1.557	.60485	32.545	26.179	.099	1439.4
50.0	-1.575	.60480	32.560	26.192	.103	1439.4
55.0	-1.610	.60463	32.565	26.213	.112	1439.3
60.0	-1.637	.60465	32.612	26.236	.121	1439.3
65.0	-1.641	.60483	32.624	26.246	.130	1439.4
70.0	-1.627	.60562	32.653	26.269	.139	1439.6
75.0	-1.609	.60658	32.686	26.295	.147	1439.8
80.0	-1.606	.60718	32.716	26.319	.156	1439.9
85.0	-1.593	.60807	32.748	26.345	.164	1440.1
90.0	-1.567	.60944	32.800	26.387	.172	1440.4
95.0	-1.559	.61027	32.838	26.417	.181	1440.6
100.0	-1.541	.61146	32.885	26.456	.188	1440.8
105.0	-1.524	.61266	32.935	26.495	.196	1441.0
110.0	-1.506	.61371	32.976	26.528	.204	1441.3

SITE 040 EXPERIMENT 4807

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.494	.61473	33.017	26.561	.211	1441.5
120.0	-1.485	.61559	33.056	26.592	.218	1441.6
125.0	-1.476	.61674	33.110	26.637	.225	1441.8
130.0	-1.467	.61761	33.148	26.667	.232	1442.0
135.0	-1.441	.61925	33.213	26.718	.239	1442.3
140.0	-1.418	.62057	33.262	26.758	.245	1442.6
145.0	-1.407	.62189	33.325	26.809	.251	1442.8
150.0	-1.371	.62359	33.362	26.854	.257	1443.1
155.0	-1.352	.62479	33.429	26.891	.263	1443.4
160.0	-1.322	.62626	33.479	26.931	.269	1443.7
165.0	-1.269	.62857	33.552	26.989	.274	1444.1
170.0	-1.211	.63090	33.621	27.043	.279	1444.5
175.0	-1.132	.63386	33.704	27.108	.284	1445.1
180.0	-.986	.63926	33.851	27.222	.289	1446.1
185.0	-.837	.64452	33.987	27.326	.292	1447.1
190.0	-.730	.64823	34.079	27.396	.296	1447.8
195.0	-.649	.65108	34.150	27.450	.299	1448.3
200.0	-.579	.65347	34.207	27.493	.302	1448.8
210.0	-.453	.65775	34.305	27.567	.307	1449.7
220.0	-.283	.66335	34.428	27.659	.312	1450.8
230.0	-.174	.66700	34.508	27.718	.316	1451.6
240.0	-.095	.66973	34.568	27.763	.319	1452.2
250.0	-.037	.67175	34.611	27.794	.323	1452.7
260.0	.018	.67360	34.648	27.821	.325	1453.2
270.0	.057	.67496	34.676	27.842	.328	1453.5
280.0	.092	.67621	34.701	27.860	.330	1453.9
290.0	.129	.67750	34.727	27.879	.333	1454.3
300.0	.156	.67842	34.742	27.889	.335	1454.6
310.0	.187	.67953	34.764	27.905	.337	1454.9
320.0	.213	.68043	34.779	27.916	.339	1455.2
330.0	.237	.68121	34.791	27.924	.340	1455.5
340.0	.253	.68182	34.801	27.932	.342	1455.7
350.0	.269	.68241	34.810	27.938	.344	1456.0
360.0	.283	.68295	34.818	27.944	.345	1456.2
370.0	.297	.68347	34.826	27.949	.347	1456.5
380.0	.315	.68402	34.831	27.952	.348	1456.7
390.0	.332	.68453	34.834	27.954	.350	1457.0
400.0	.336	.68472	34.835	27.954	.351	1457.2
412.1	.335	.68487	34.837	27.956	.353	1457.4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32
33
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35
EXP 4807 74-23.3 N 110-13.2 W
DATE 23/03/83 GMT 2204
STN 040
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
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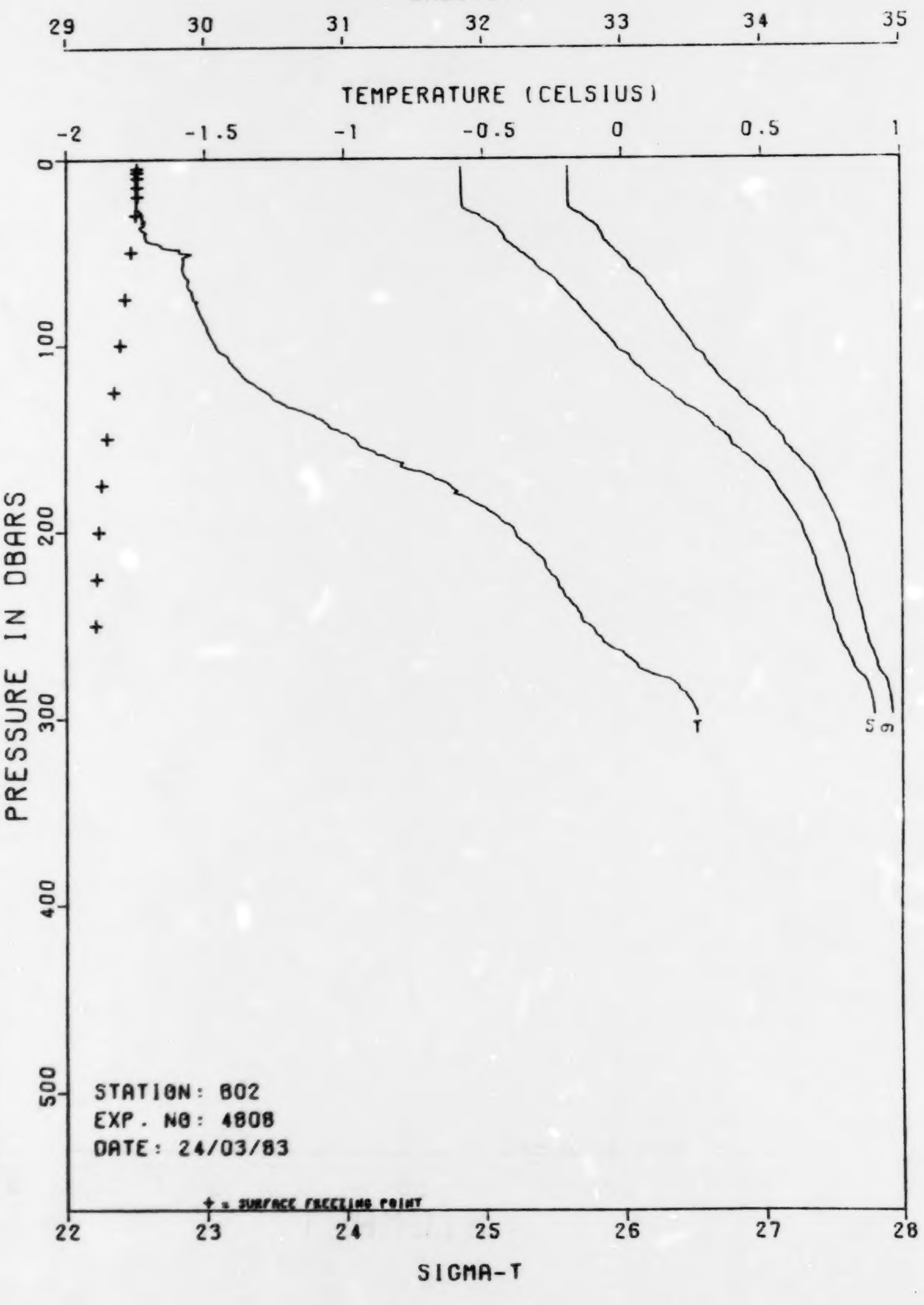
26
27
28
SIGMA-T


SALINITY
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30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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PRESSURE IN DBARS
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STATION: 802
EXP. NO: 4808
DATE: 24/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE 602 EXPERIMENT 4808

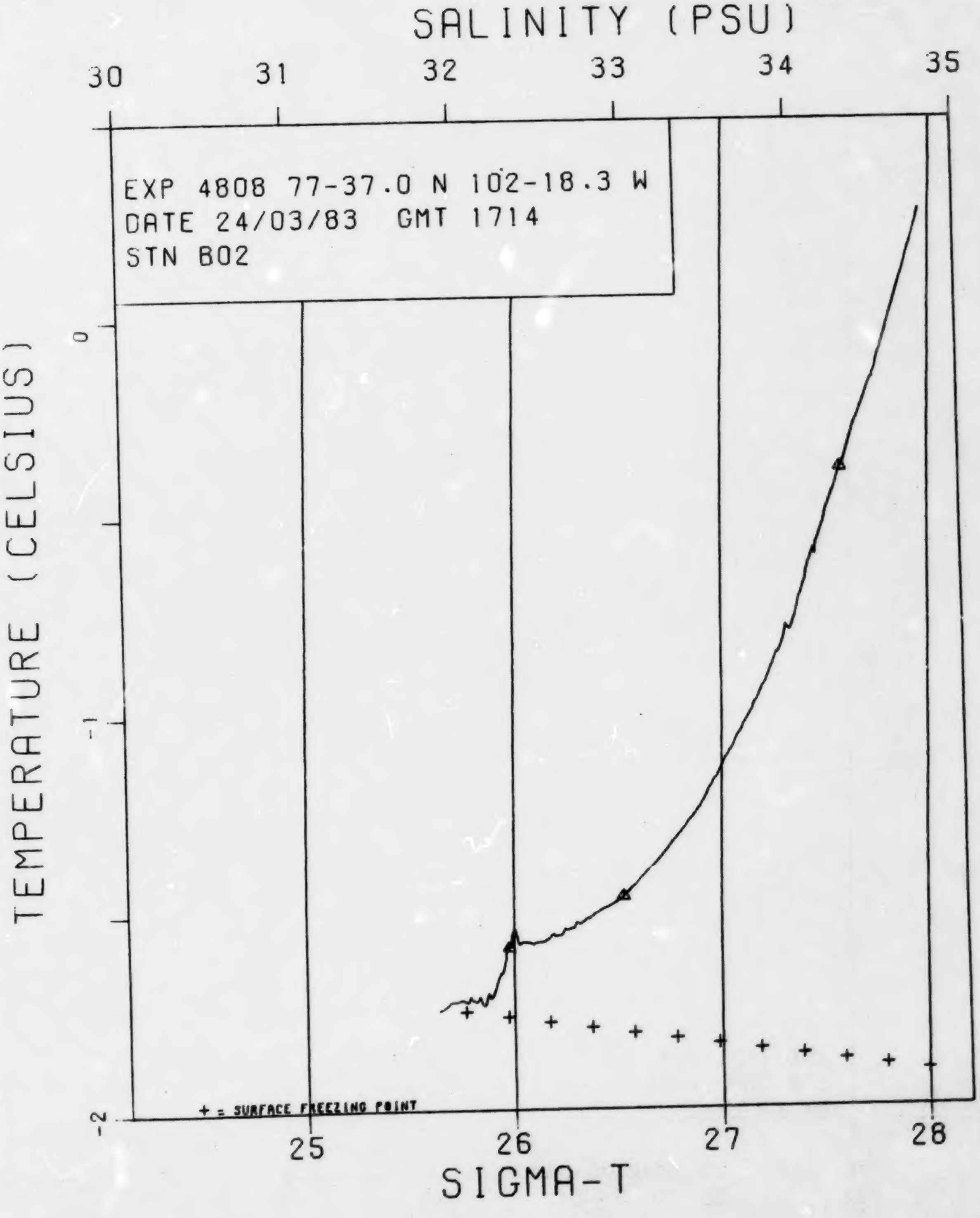
LAT.N. 77-37- 0 LON.W. 102-18-17 DATE 24/ 3/83 G.M.T. 1714

ICE THICKNESS 2.1 M WATER DEPTH 299 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.748	.58908	31.842	25.613	.011	1436.8
5.0	-1.748	.58908	31.842	25.613	.012	1436.8
6.0	-1.748	.58909	31.843	25.613	.014	1436.8
7.0	-1.748	.58911	31.843	25.613	.017	1436.8
8.0	-1.748	.58913	31.844	25.614	.019	1436.9
9.0	-1.747	.58914	31.843	25.613	.021	1436.9
10.0	-1.748	.58916	31.844	25.614	.024	1436.9
11.0	-1.748	.58917	31.844	25.614	.026	1436.9
12.0	-1.747	.58919	31.844	25.614	.028	1436.9
13.0	-1.747	.58921	31.844	25.614	.031	1436.9
14.0	-1.747	.58922	31.844	25.614	.033	1437.0
15.0	-1.747	.58923	31.845	25.615	.035	1437.0
16.0	-1.748	.58924	31.845	25.615	.038	1437.0
17.0	-1.747	.58925	31.845	25.615	.040	1437.0
18.0	-1.747	.58926	31.844	25.614	.043	1437.0
19.0	-1.746	.58929	31.844	25.614	.045	1437.0
20.0	-1.747	.58929	31.845	25.615	.047	1437.1
21.0	-1.746	.58932	31.845	25.615	.050	1437.1
22.0	-1.746	.58934	31.845	25.615	.052	1437.1
23.0	-1.746	.58936	31.846	25.616	.054	1437.1
24.0	-1.745	.58939	31.847	25.616	.057	1437.1
25.0	-1.745	.58943	31.848	25.618	.059	1437.1
27.5	-1.740	.59004	31.877	25.641	.065	1437.3
30.0	-1.724	.59173	31.959	25.707	.071	1437.5
32.5	-1.726	.59252	32.006	25.746	.076	1437.6
35.0	-1.723	.59373	32.073	25.800	.082	1437.7
37.5	-1.734	.59426	32.115	25.834	.087	1437.8
40.0	-1.707	.59515	32.137	25.851	.093	1438.0
42.5	-1.715	.59537	32.157	25.868	.098	1438.0
45.0	-1.692	.59616	32.178	25.884	.103	1438.2
47.5	-1.656	.59754	32.219	25.917	.108	1438.5
50.0	-1.593	.59949	32.265	25.953	.114	1438.9
55.0	-1.578	.60144	32.361	26.031	.124	1439.2
60.0	-1.581	.60237	32.416	26.075	.133	1439.3
65.0	-1.558	.60460	32.520	26.159	.143	1439.6
70.0	-1.557	.60572	32.582	26.209	.152	1439.8
75.0	-1.543	.60690	32.634	26.251	.161	1440.0
80.0	-1.528	.60846	32.705	26.309	.169	1440.3
85.0	-1.513	.60970	32.759	26.352	.178	1440.5
90.0	-1.494	.61128	32.829	26.408	.186	1440.8
95.0	-1.482	.61262	32.892	26.459	.194	1441.0
100.0	-1.463	.61402	32.950	26.506	.201	1441.3
105.0	-1.430	.61605	33.030	26.570	.209	1441.6
110.0	-1.403	.61754	33.086	26.615	.216	1441.9

SITE B02 EXPERIMENT 4678

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.372	.61936	33.156	26.670	.223	1442.2
120.0	-1.339	.62114	33.221	26.722	.229	1442.6
125.0	-1.286	.62400	33.327	26.806	.236	1443.0
130.0	-1.244	.62605	33.397	26.862	.242	1443.4
135.0	-1.164	.62960	33.513	26.954	.247	1444.0
140.0	-1.082	.63296	33.616	27.034	.253	1444.7
145.0	-1.047	.63447	33.661	27.070	.258	1445.0
150.0	-.969	.63775	33.762	27.149	.262	1445.6
155.0	-.937	.63896	33.794	27.174	.267	1445.8
160.0	-.854	.64231	33.893	27.251	.271	1446.4
165.0	-.795	.64472	33.963	27.305	.275	1446.9
170.0	-.691	.64820	34.045	27.367	.278	1447.6
175.0	-.623	.65038	34.093	27.403	.282	1448.0
180.0	-.607	.65134	34.127	27.430	.285	1448.2
185.0	-.533	.65370	34.177	27.467	.288	1448.7
190.0	-.475	.65564	34.219	27.499	.291	1449.1
195.0	-.431	.65726	34.261	27.530	.294	1449.5
200.0	-.387	.65871	34.291	27.553	.296	1449.8
210.0	-.324	.66104	34.348	27.596	.301	1450.3
220.0	-.275	.66277	34.386	27.624	.306	1450.8
230.0	-.229	.66456	34.430	27.658	.310	1451.2
240.0	-.175	.66650	34.474	27.690	.314	1451.7
250.0	-.121	.66854	34.523	27.728	.318	1452.2
260.0	-.068	.67036	34.562	27.756	.322	1452.6
270.0	.039	.67388	34.634	27.809	.325	1453.4
280.0	.173	.67842	34.735	27.883	.327	1454.3
290.0	.238	.68063	34.781	27.916	.329	1454.8
299.4	.266	.68162	34.799	27.929	.331	1455.1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DATE 24/03/83 GMT 1714
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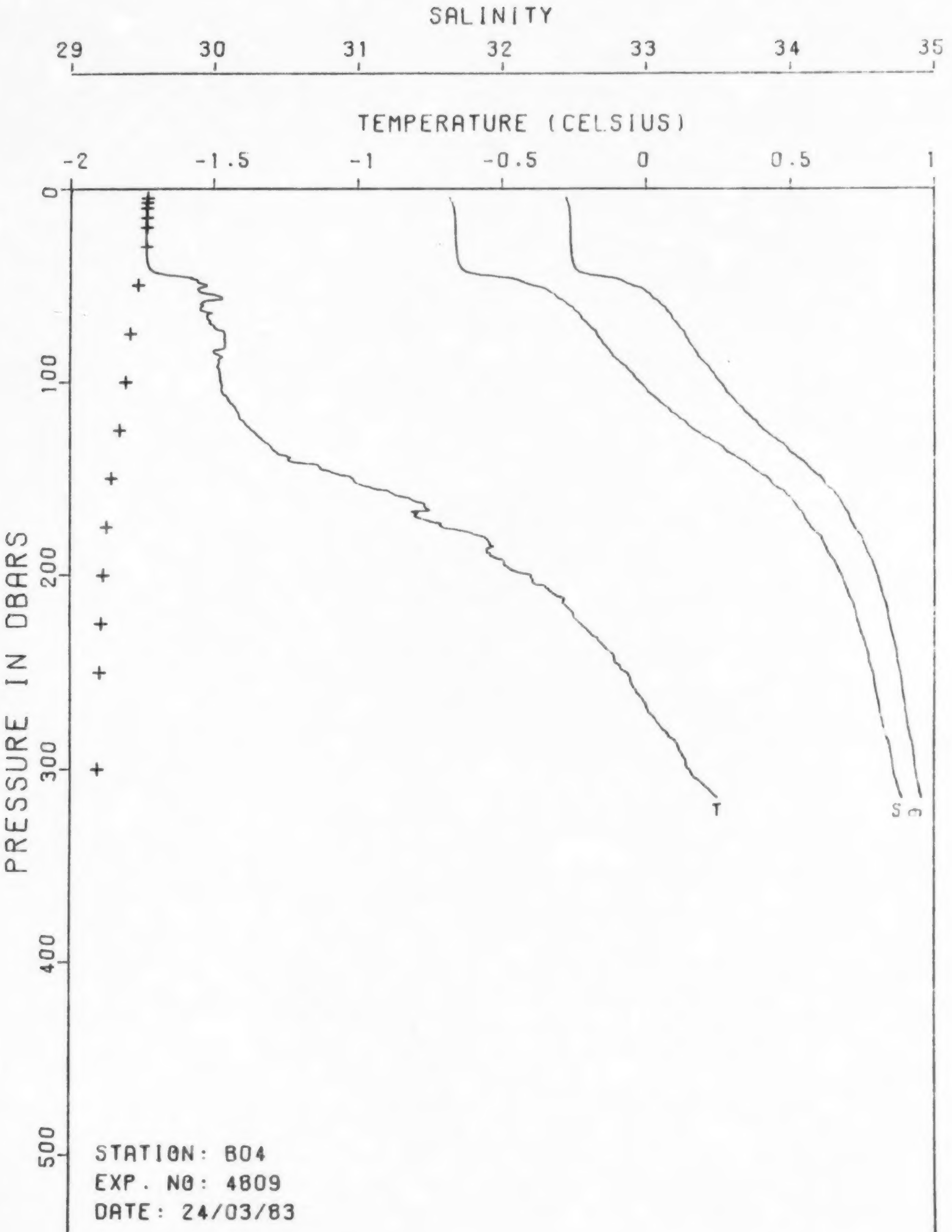
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TEMPERATURE (CELSIUS)
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STATION: B04
EXP. NO: 4809
DATE: 24/03/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE 804 EXPERIMENT 4809

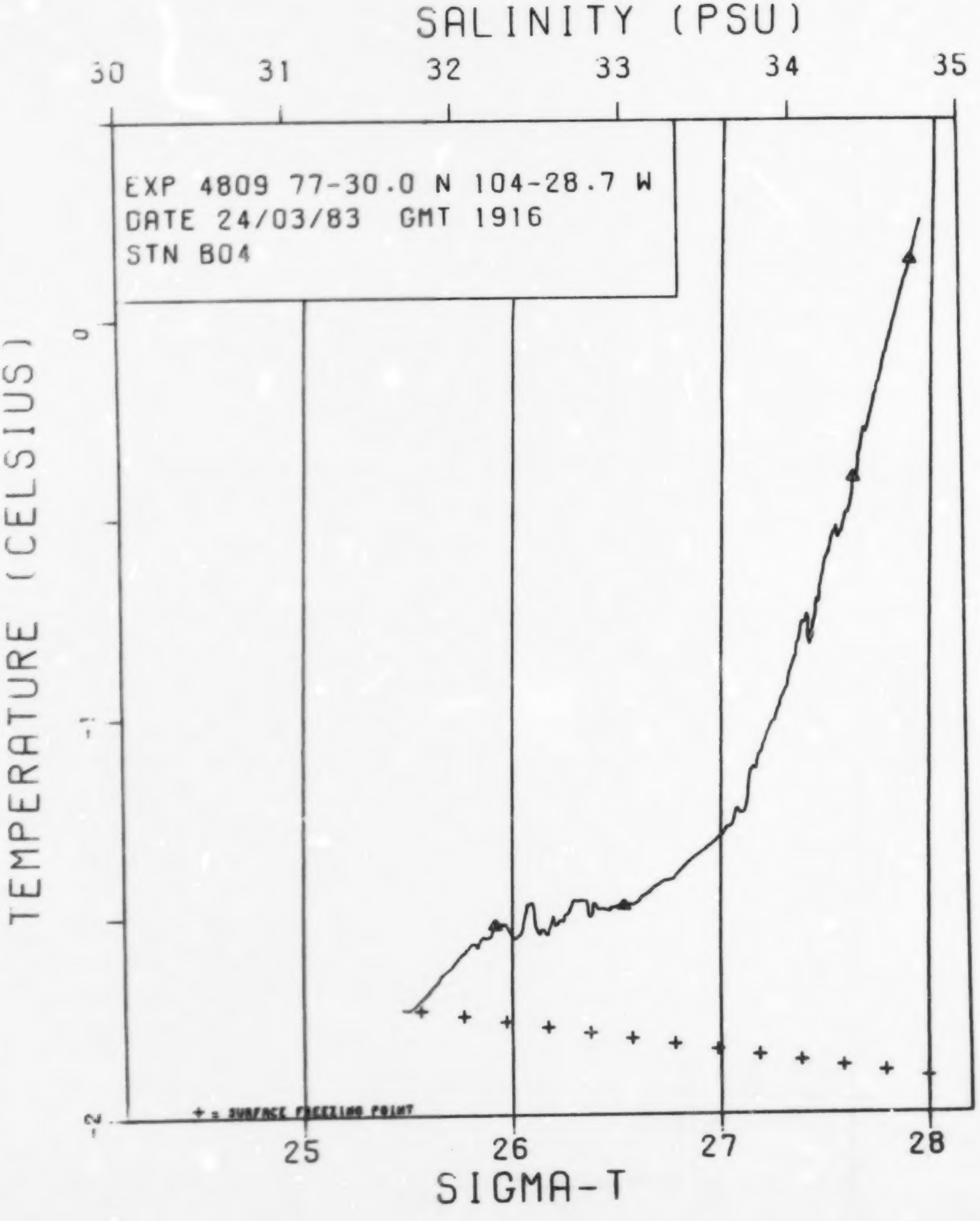
LAT.N. 77-30- 0 LON.W. 104-28-42 DATE 24/ 3/83 G.M.T. 1916

ICE THICKNESS 2.0 M WATER DEPTH 314 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.734	.58590	31.638	25.447	.012	1436.6
5.0	-1.734	.58590	31.639	25.446	.013	1436.6
6.0	-1.735	.58598	31.644	25.451	.015	1436.6
7.0	-1.735	.58611	31.651	25.457	.018	1436.6
8.0	-1.736	.58625	31.660	25.464	.020	1436.7
9.0	-1.736	.58632	31.663	25.467	.023	1436.7
10.0	-1.736	.58639	31.667	25.470	.025	1436.7
11.0	-1.736	.58644	31.669	25.472	.028	1436.7
12.0	-1.736	.58646	31.670	25.472	.030	1436.7
13.0	-1.736	.58649	31.671	25.473	.033	1436.7
14.0	-1.736	.58651	31.672	25.474	.035	1436.7
15.0	-1.736	.58654	31.672	25.474	.038	1436.8
16.0	-1.736	.58657	31.674	25.476	.040	1436.8
17.0	-1.736	.58659	31.675	25.477	.043	1436.8
18.0	-1.736	.58662	31.676	25.477	.045	1436.8
19.0	-1.736	.58663	31.676	25.477	.046	1436.9
20.0	-1.736	.58666	31.677	25.478	.050	1436.9
21.0	-1.736	.58667	31.677	25.478	.053	1436.9
22.0	-1.736	.58669	31.678	25.479	.055	1436.9
23.0	-1.736	.58671	31.678	25.479	.058	1436.9
24.0	-1.737	.58671	31.678	25.479	.060	1436.9
25.0	-1.736	.58673	31.678	25.479	.063	1437.0
27.5	-1.736	.58676	31.678	25.479	.069	1437.0
30.0	-1.735	.58686	31.682	25.482	.075	1437.0
32.5	-1.735	.58694	31.685	25.484	.081	1437.1
35.0	-1.734	.58703	31.688	25.487	.087	1437.1
37.5	-1.731	.58723	31.695	25.493	.094	1437.2
40.0	-1.727	.58760	31.711	25.506	.100	1437.3
42.5	-1.716	.58825	31.736	25.526	.106	1437.4
45.0	-1.657	.59143	31.859	25.625	.112	1437.9
47.5	-1.553	.59777	32.121	25.835	.118	1438.8
50.0	-1.523	.59980	32.207	25.904	.123	1439.1
55.0	-1.494	.60320	32.373	26.039	.133	1439.6
60.0	-1.549	.60367	32.457	26.108	.142	1439.5
65.0	-1.520	.60571	32.544	26.178	.152	1439.9
70.0	-1.514	.60675	32.596	26.220	.161	1440.0
75.0	-1.460	.60895	32.664	26.273	.170	1440.5
80.0	-1.460	.60969	32.704	26.306	.178	1440.6
85.0	-1.502	.60990	32.759	26.352	.187	1440.6
90.0	-1.483	.61149	32.830	26.409	.195	1440.8
95.0	-1.479	.61277	32.898	26.464	.203	1441.0
100.0	-1.474	.61396	32.959	26.514	.210	1441.2
105.0	-1.473	.61501	33.017	26.561	.218	1441.4
110.0	-1.446	.61691	33.096	26.624	.225	1441.7

SITE 604   EXPERIMENT 4805

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.420	.61873	33.171	26.684	.232	1442.0
120.0	-1.398	.62084	33.268	26.762	.238	1442.4
125.0	-1.369	.62261	33.337	26.818	.244	1442.7
130.0	-1.330	.62534	33.452	26.909	.250	1443.1
135.0	-1.296	.62767	33.547	26.986	.256	1443.5
140.0	-1.245	.63043	33.650	27.067	.261	1443.9
145.0	-1.131	.63427	33.744	27.140	.265	1444.7
150.0	-1.017	.63825	33.846	27.219	.270	1445.4
155.0	-.951	.64074	33.913	27.270	.274	1445.9
160.0	-.829	.64463	34.000	27.336	.277	1446.7
165.0	-.766	.64671	34.047	27.372	.281	1447.1
170.0	-.804	.64687	34.095	27.413	.284	1447.1
175.0	-.711	.64948	34.139	27.444	.288	1447.7
180.0	-.572	.65349	34.211	27.497	.291	1448.5
185.0	-.541	.65461	34.238	27.517	.293	1448.8
190.0	-.539	.65539	34.278	27.549	.296	1448.9
195.0	-.492	.65707	34.318	27.580	.299	1449.3
200.0	-.398	.65958	34.353	27.604	.301	1449.8
210.0	-.320	.66204	34.401	27.639	.306	1450.4
220.0	-.253	.66441	34.455	27.679	.310	1451.0
230.0	-.192	.66637	34.492	27.706	.314	1451.5
240.0	-.118	.66874	34.538	27.739	.317	1452.0
250.0	-.068	.67042	34.571	27.763	.321	1452.5
260.0	-.034	.67163	34.595	27.781	.324	1452.8
270.0	.007	.67299	34.620	27.799	.327	1453.2
280.0	.062	.67480	34.655	27.824	.329	1453.7
290.0	.116	.67663	34.692	27.852	.332	1454.2
300.0	.150	.67783	34.715	27.868	.334	1454.5
310.0	.217	.67995	34.754	27.896	.336	1455.0
314.9	.246	.68100	34.777	27.913	.337	1455.3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DATE 24/03/83 GMT 1916
STN B04
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+ = SURFACE FREEZING POINT
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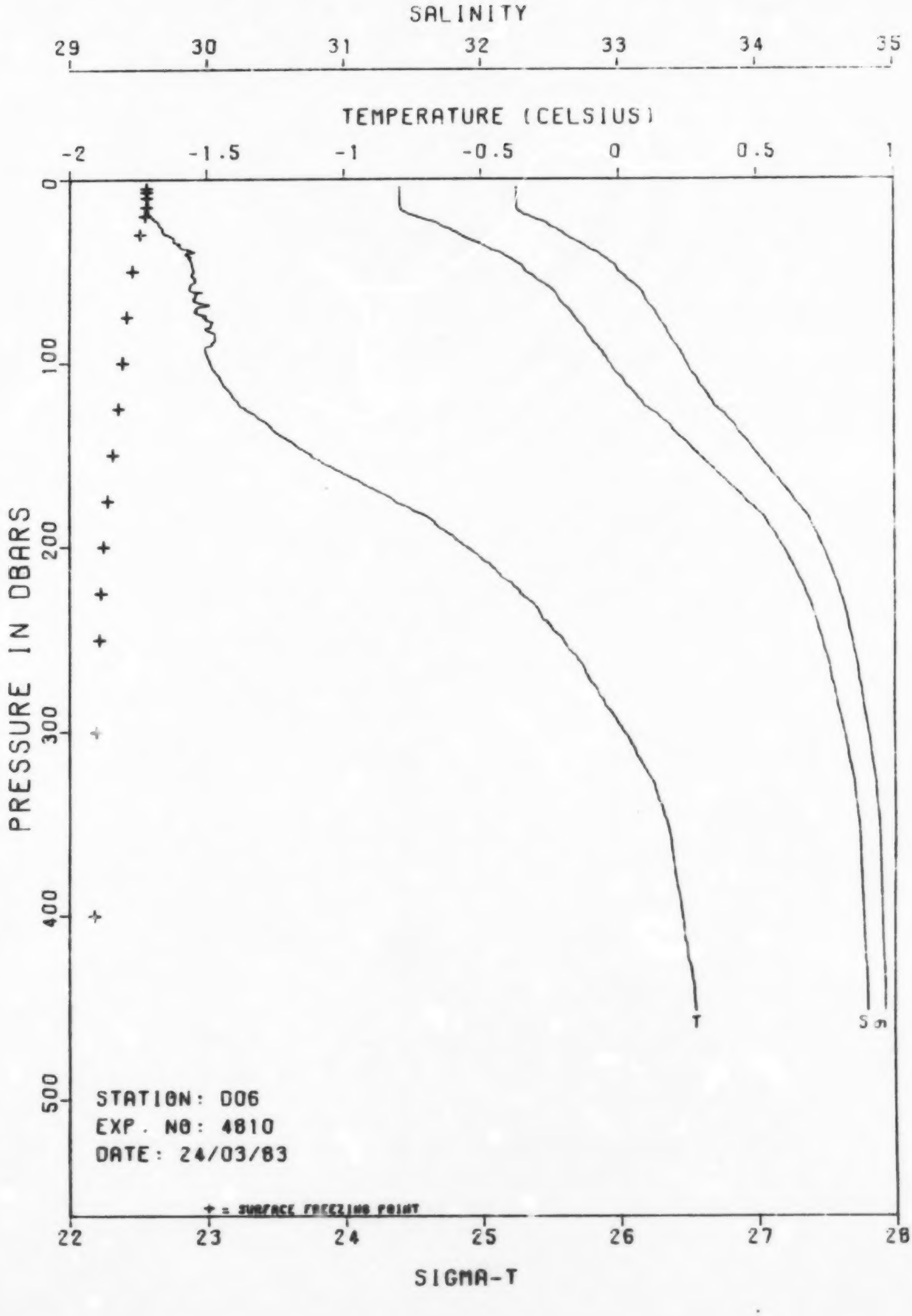
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: D06
EXP. NO: 4810
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+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE 006   EXPERIMENT 4810

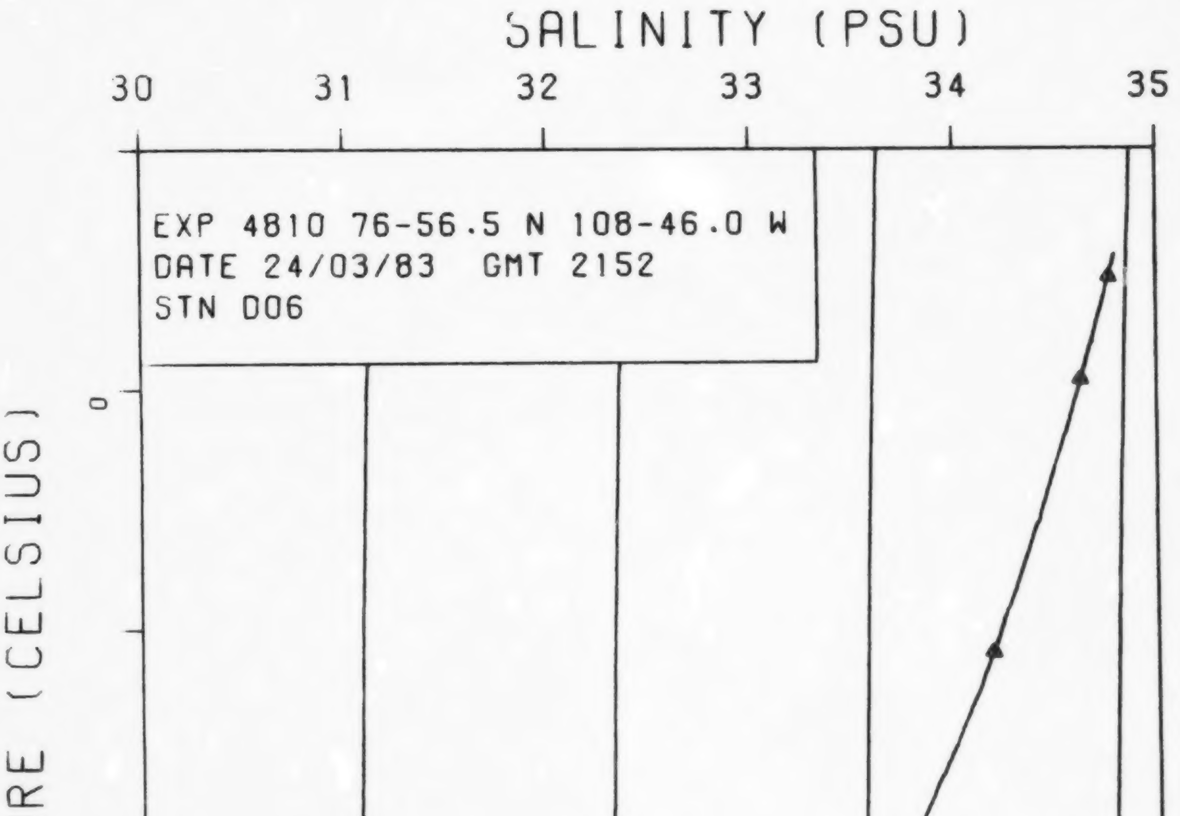
LAT.N. 76-56-30   LON.W. 108-46- 0   DATE 24/ 3/83   G.M.T. 2152

ICE THICKNESS 2.5 M   WATER DEPTH 450 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.5	-1.714	.58236	31.408	25.259	.012	1436.3
5.0	-1.713	.58237	31.408	25.259	.014	1436.4
6.0	-1.714	.58237	31.408	25.259	.016	1436.4
7.0	-1.714	.58238	31.408	25.259	.019	1436.4
8.0	-1.714	.58239	31.408	25.259	.022	1436.4
9.0	-1.713	.58241	31.407	25.259	.024	1436.4
10.0	-1.714	.58242	31.409	25.260	.027	1436.4
11.0	-1.714	.58244	31.409	25.260	.030	1436.5
12.0	-1.714	.58245	31.409	25.260	.032	1436.5
13.0	-1.714	.58246	31.409	25.260	.035	1436.5
14.0	-1.714	.58248	31.409	25.260	.038	1436.5
15.0	-1.713	.58251	31.410	25.260	.041	1436.5
16.0	-1.713	.58255	31.412	25.263	.043	1436.5
17.0	-1.714	.58268	31.419	25.268	.046	1436.6
18.0	-1.712	.58318	31.446	25.290	.049	1436.6
19.0	-1.712	.58359	31.471	25.310	.051	1436.7
20.0	-1.706	.58446	31.514	25.345	.054	1436.8
21.0	-1.699	.58515	31.548	25.373	.056	1436.9
22.0	-1.691	.58605	31.591	25.407	.059	1437.0
23.0	-1.681	.58718	31.648	25.453	.062	1437.1
24.0	-1.672	.58797	31.684	25.483	.064	1437.2
25.0	-1.672	.58830	31.703	25.498	.067	1437.3
27.5	-1.659	.58988	31.761	25.561	.073	1437.5
30.0	-1.654	.59099	31.839	25.608	.079	1437.7
32.5	-1.616	.59277	31.903	25.659	.085	1438.0
35.0	-1.608	.59440	31.989	25.729	.090	1438.2
37.5	-1.595	.59571	32.051	25.779	.096	1438.4
40.0	-1.559	.59801	32.146	25.856	.101	1438.7
42.5	-1.555	.59885	32.191	25.892	.106	1438.8
45.0	-1.554	.59992	32.251	25.941	.112	1439.0
47.5	-1.552	.60091	32.305	25.985	.117	1439.1
50.0	-1.545	.60138	32.325	26.000	.122	1439.2
55.0	-1.540	.60303	32.413	26.072	.132	1439.4
60.0	-1.563	.60443	32.518	26.158	.141	1439.5
65.0	-1.544	.60567	32.568	26.197	.150	1439.8
70.0	-1.535	.60691	32.627	26.246	.159	1440.0
75.0	-1.507	.60838	32.681	26.289	.168	1440.3
80.0	-1.485	.60983	32.739	26.335	.176	1440.5
85.0	-1.468	.61091	32.781	26.369	.184	1440.8
90.0	-1.476	.61169	32.833	26.411	.192	1440.9
95.0	-1.502	.61227	32.893	26.460	.200	1440.9
100.0	-1.486	.61328	32.932	26.492	.208	1441.1
105.0	-1.469	.61444	32.978	26.529	.216	1441.4
110.0	-1.445	.61600	33.041	26.580	.223	1441.6

SITE 006 EXPERIMENT 4610

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.420	.61754	33.101	26.627	.230	1441.9
120.0	-1.399	.61883	33.152	26.666	.237	1442.2
125.0	-1.356	.62085	33.222	26.724	.243	1442.6
130.0	-1.315	.62315	33.306	26.791	.250	1443.0
135.0	-1.266	.62546	33.384	26.852	.256	1443.4
140.0	-1.228	.62717	33.440	26.896	.262	1443.7
145.0	-1.177	.62946	33.514	26.955	.267	1444.1
150.0	-1.119	.63171	33.577	27.004	.272	1444.6
155.0	-1.074	.63381	33.647	27.060	.278	1445.0
160.0	-1.005	.63634	33.715	27.112	.282	1445.5
165.0	-.940	.63891	33.788	27.169	.287	1446.0
170.0	-.877	.64134	33.856	27.222	.291	1446.4
175.0	-.817	.64369	33.922	27.273	.295	1446.9
180.0	-.751	.64626	33.995	27.329	.299	1447.4
185.0	-.684	.64878	34.062	27.380	.302	1447.9
190.0	-.650	.65012	34.098	27.409	.306	1448.2
195.0	-.597	.65204	34.146	27.445	.309	1448.6
200.0	-.555	.65359	34.186	27.475	.312	1448.9
210.0	-.465	.65671	34.258	27.530	.318	1449.6
220.0	-.387	.65961	34.330	27.595	.323	1450.2
230.0	-.318	.66201	34.385	27.626	.327	1450.8
240.0	-.274	.66368	34.425	27.656	.332	1451.2
250.0	-.204	.66597	34.470	27.689	.336	1451.7
260.0	-.152	.66780	34.510	27.719	.340	1452.2
270.0	-.113	.66913	34.536	27.737	.343	1452.6
280.0	-.072	.67060	34.568	27.761	.347	1453.0
290.0	-.025	.67222	34.600	27.785	.350	1453.4
300.0	.017	.67364	34.628	27.805	.353	1453.8
310.0	.060	.67509	34.656	27.826	.355	1454.2
320.0	.093	.67633	34.683	27.846	.358	1454.5
330.0	.129	.67756	34.706	27.862	.360	1454.9
340.0	.154	.67840	34.719	27.871	.363	1455.2
350.0	.175	.67920	34.735	27.883	.365	1455.5
360.0	.188	.67974	34.744	27.890	.367	1455.7
370.0	.197	.68011	34.749	27.893	.369	1455.9
380.0	.205	.68049	34.756	27.898	.371	1456.1
390.0	.220	.68102	34.763	27.903	.373	1456.4
400.0	.229	.68141	34.769	27.907	.375	1456.6
425.0	.252	.68235	34.781	27.916	.379	1457.1
450.0	.275	.69337	34.797	27.927	.384	1457.7
452.2	.279	.68349	34.799	27.929	.384	1457.7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DATE 24/03/83 GMT 2152
STN D06
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+ = SURFACE FREEZING POINT
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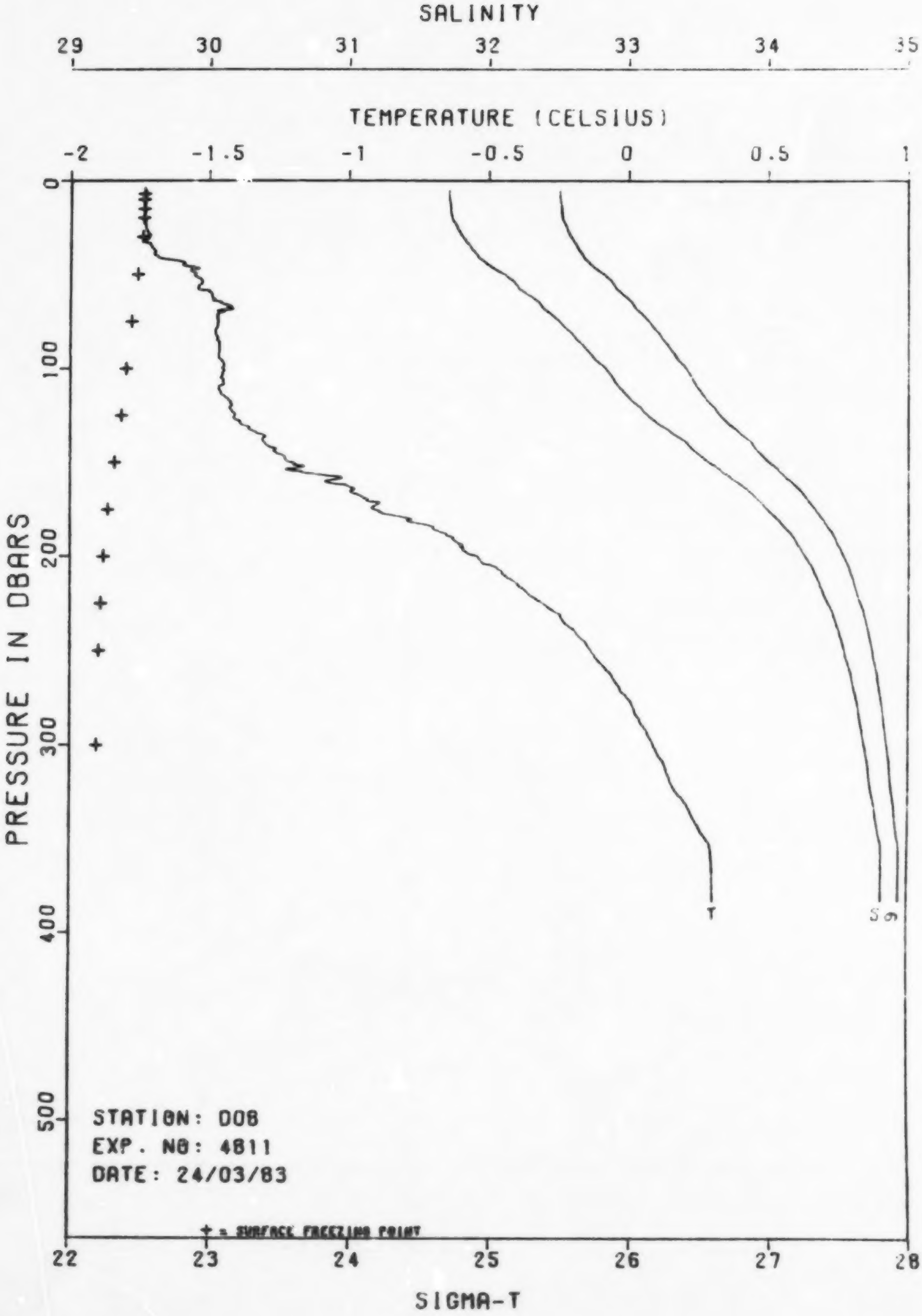
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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STATION: 008
EXP. NO: 4811
DATE: 24/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE 008   EXPERIMENT 4811

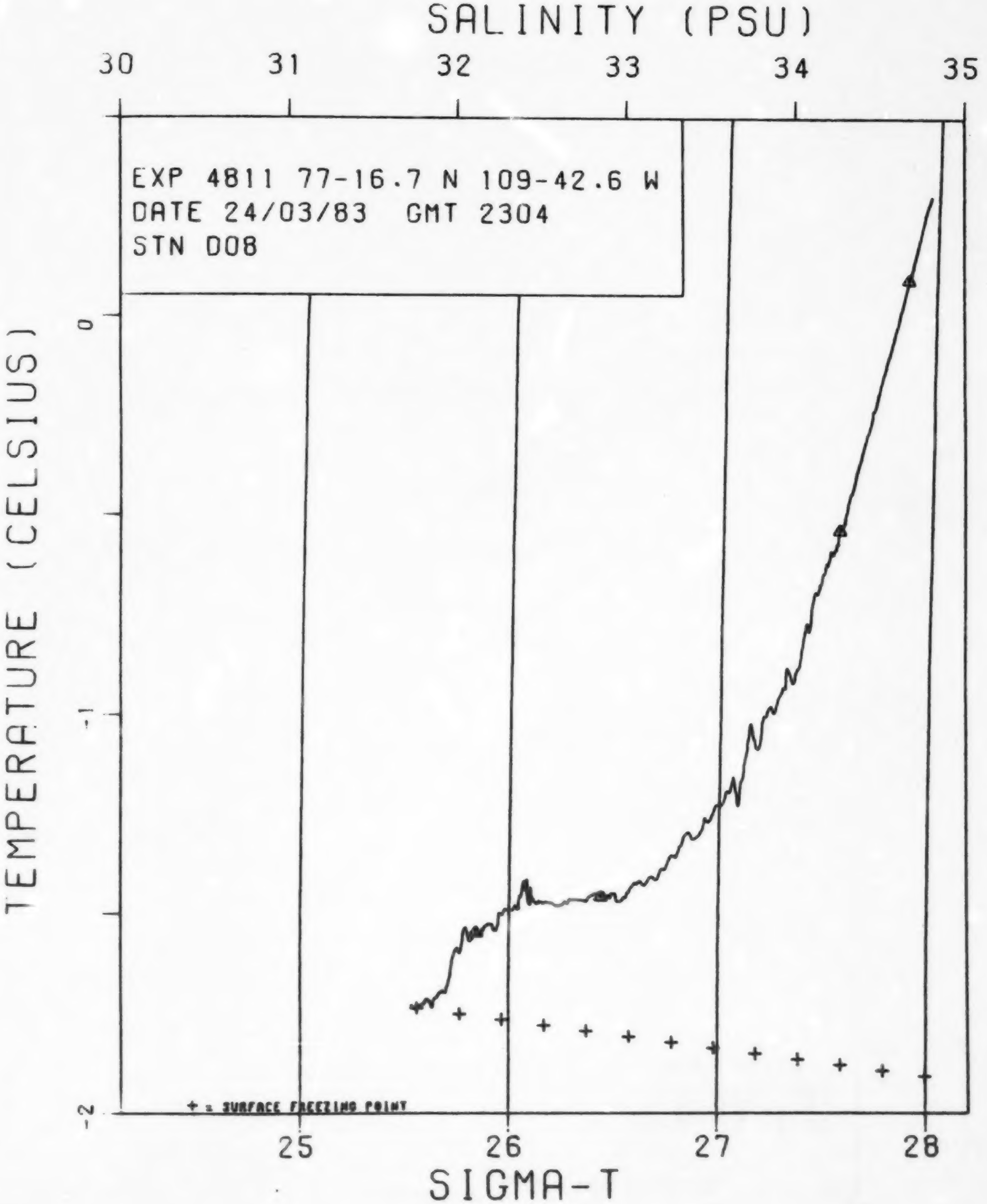
LAT.N. 77-16-42   LON.W. 109-42-35   DATE 24/ 3/83   G.M.T. 2304

ICE THICKNESS   2.4 M   WATER DEPTH   383   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
5.3	-1.729	.58727	31.714	25.508	.013	1436.7
6.0	-1.729	.58726	31.713	25.507	.015	1436.7
7.0	-1.729	.58727	31.713	25.508	.017	1436.7
8.0	-1.730	.58729	31.715	25.509	.020	1436.8
9.0	-1.729	.58729	31.714	25.508	.022	1436.8
10.0	-1.729	.58730	31.714	25.508	.025	1436.8
11.0	-1.732	.58732	31.717	25.511	.027	1436.8
12.0	-1.732	.58738	31.721	25.513	.030	1436.8
13.0	-1.733	.58743	31.723	25.516	.032	1436.8
14.0	-1.733	.58747	31.725	25.517	.034	1436.9
15.0	-1.734	.58748	31.726	25.518	.037	1436.9
16.0	-1.733	.58751	31.726	25.518	.039	1436.9
17.0	-1.733	.58753	31.727	25.519	.042	1436.9
18.0	-1.733	.58756	31.729	25.520	.044	1436.9
19.0	-1.735	.58758	31.731	25.522	.047	1436.9
20.0	-1.735	.58766	31.735	25.525	.049	1437.0
21.0	-1.732	.58778	31.739	25.528	.052	1437.0
22.0	-1.732	.58793	31.747	25.535	.054	1437.0
23.0	-1.732	.58814	31.758	25.544	.056	1437.1
24.0	-1.731	.58832	31.768	25.552	.059	1437.1
25.0	-1.730	.58846	31.774	25.557	.061	1437.1
27.5	-1.725	.58888	31.792	25.571	.067	1437.2
30.0	-1.713	.58941	31.809	25.585	.073	1437.3
32.5	-1.735	.58949	31.836	25.607	.079	1437.3
35.0	-1.709	.59051	31.868	25.633	.085	1437.5
37.5	-1.697	.59106	31.885	25.646	.091	1437.6
40.0	-1.698	.59163	31.919	25.674	.097	1437.7
42.5	-1.629	.59346	31.951	25.699	.103	1438.1
45.0	-1.593	.59487	31.995	25.733	.108	1438.4
47.5	-1.545	.59665	32.046	25.774	.114	1438.7
50.0	-1.548	.59764	32.106	25.823	.119	1438.9
55.0	-1.527	.59951	32.191	25.891	.130	1439.2
60.0	-1.491	.60146	32.264	25.950	.140	1439.5
65.0	-1.461	.60373	32.362	26.029	.150	1439.9
70.0	-1.432	.60526	32.418	26.074	.160	1440.2
75.0	-1.468	.60611	32.505	26.144	.169	1440.2
80.0	-1.480	.60709	32.572	26.200	.178	1440.3
85.0	-1.475	.60828	32.634	26.250	.187	1440.5
90.0	-1.464	.60969	32.702	26.305	.196	1440.7
95.0	-1.464	.61069	32.758	26.350	.204	1440.9
100.0	-1.460	.61215	32.837	26.414	.213	1441.1
105.0	-1.461	.61305	32.888	26.456	.220	1441.3
110.0	-1.471	.61369	32.934	26.493	.228	1441.4
115.0	-1.444	.61531	32.996	26.542	.236	1441.7

SITE D06 EXPERIMENT 4-11

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.419	.61705	33.069	26.601	.243	1442.0
125.0	-1.405	.61852	33.137	26.656	.250	1442.2
130.0	-1.383	.62043	33.221	26.724	.256	1442.5
135.0	-1.311	.62354	33.321	26.803	.263	1443.1
140.0	-1.299	.62554	33.422	26.884	.269	1443.4
145.0	-1.258	.62749	33.489	26.937	.274	1443.7
150.0	-1.201	.63009	33.574	27.005	.280	1444.2
155.0	-1.166	.63236	33.665	27.077	.285	1444.6
160.0	-1.089	.63560	33.765	27.156	.289	1445.2
165.0	-.994	.63903	33.856	27.226	.294	1445.8
170.0	-.931	.64146	33.924	27.278	.298	1446.3
175.0	-.911	.64305	33.990	27.332	.301	1446.6
180.0	-.777	.64686	34.058	27.381	.305	1447.4
185.0	-.699	.64948	34.120	27.428	.308	1447.9
190.0	-.622	.65206	34.179	27.473	.311	1448.4
195.0	-.601	.65326	34.221	27.506	.314	1448.6
200.0	-.536	.65525	34.260	27.535	.317	1449.1
210.0	-.442	.65849	34.334	27.590	.322	1449.8
220.0	-.355	.66125	34.389	27.631	.327	1450.4
230.0	-.255	.66448	34.455	27.679	.331	1451.1
240.0	-.187	.66673	34.501	27.713	.335	1451.7
250.0	-.131	.66862	34.539	27.741	.338	1452.2
260.0	-.075	.67045	34.575	27.767	.342	1452.6
270.0	-.027	.67206	34.606	27.789	.345	1453.1
280.0	.020	.67364	34.636	27.812	.347	1453.5
290.0	.058	.67490	34.659	27.828	.350	1453.8
300.0	.091	.67599	34.678	27.841	.353	1454.2
310.0	.129	.67737	34.706	27.862	.355	1454.6
320.0	.156	.67823	34.720	27.872	.357	1454.9
330.0	.202	.67975	34.747	27.891	.360	1455.3
340.0	.239	.68094	34.767	27.905	.362	1455.6
350.0	.280	.68235	34.794	27.924	.363	1456.0
360.0	.297	.68308	34.810	27.936	.365	1456.3
370.0	.300	.68326	34.811	27.937	.367	1456.5
380.0	.301	.68339	34.811	27.937	.368	1456.6
383.5	.302	.68344	34.811	27.937	.369	1456.7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EXP 4811 77-16.7 N 109-42.6 W
DATE 24/03/83 GMT 2304
STN D08
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+ = SURFACE FREEZING POINT
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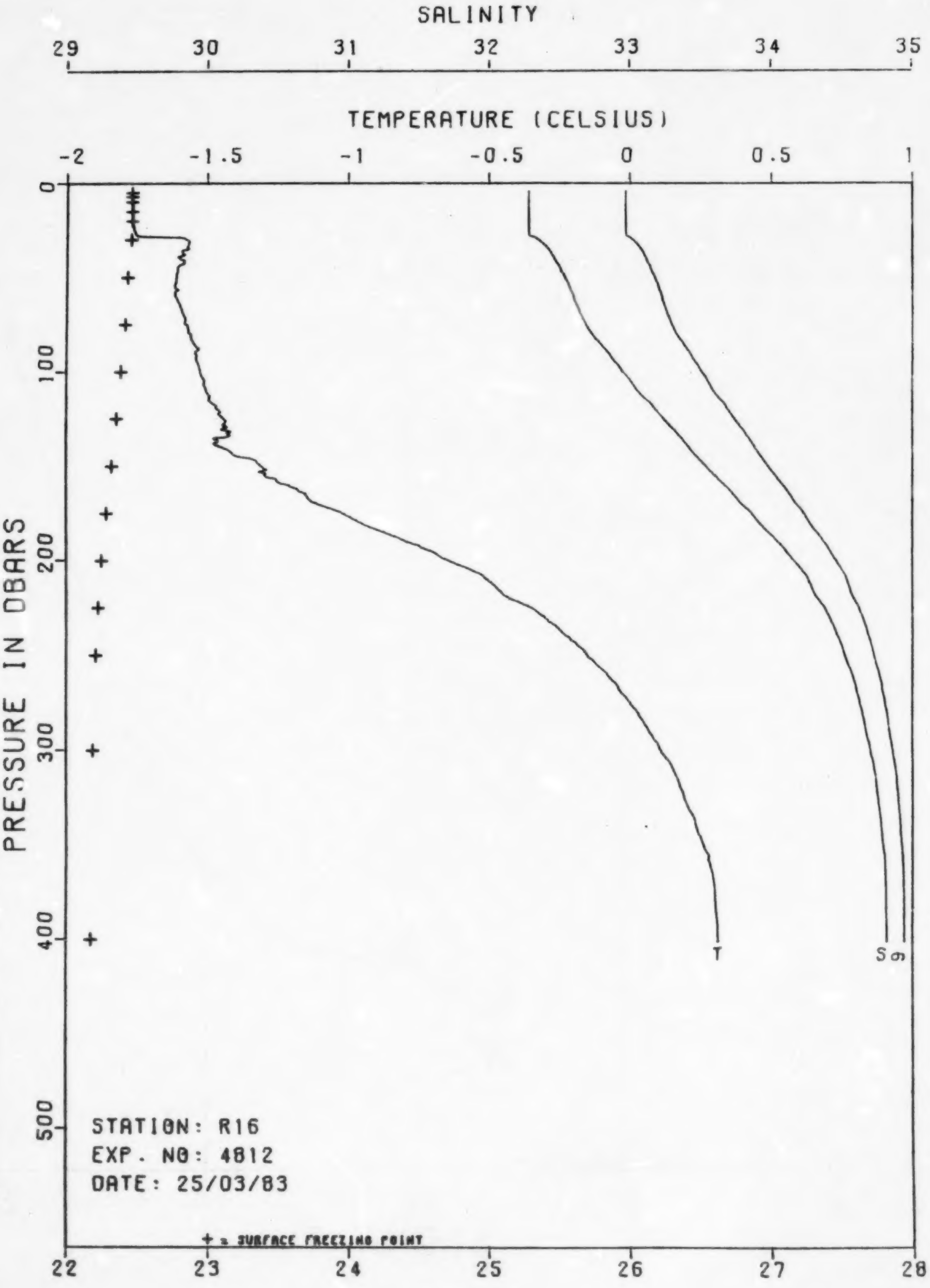
SIGMA-T


SALINITY
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PRESSURE IN DBARS
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STATION: R16
EXP. NO: 4812
DATE: 25/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE R16   EXPERIMENT 4812

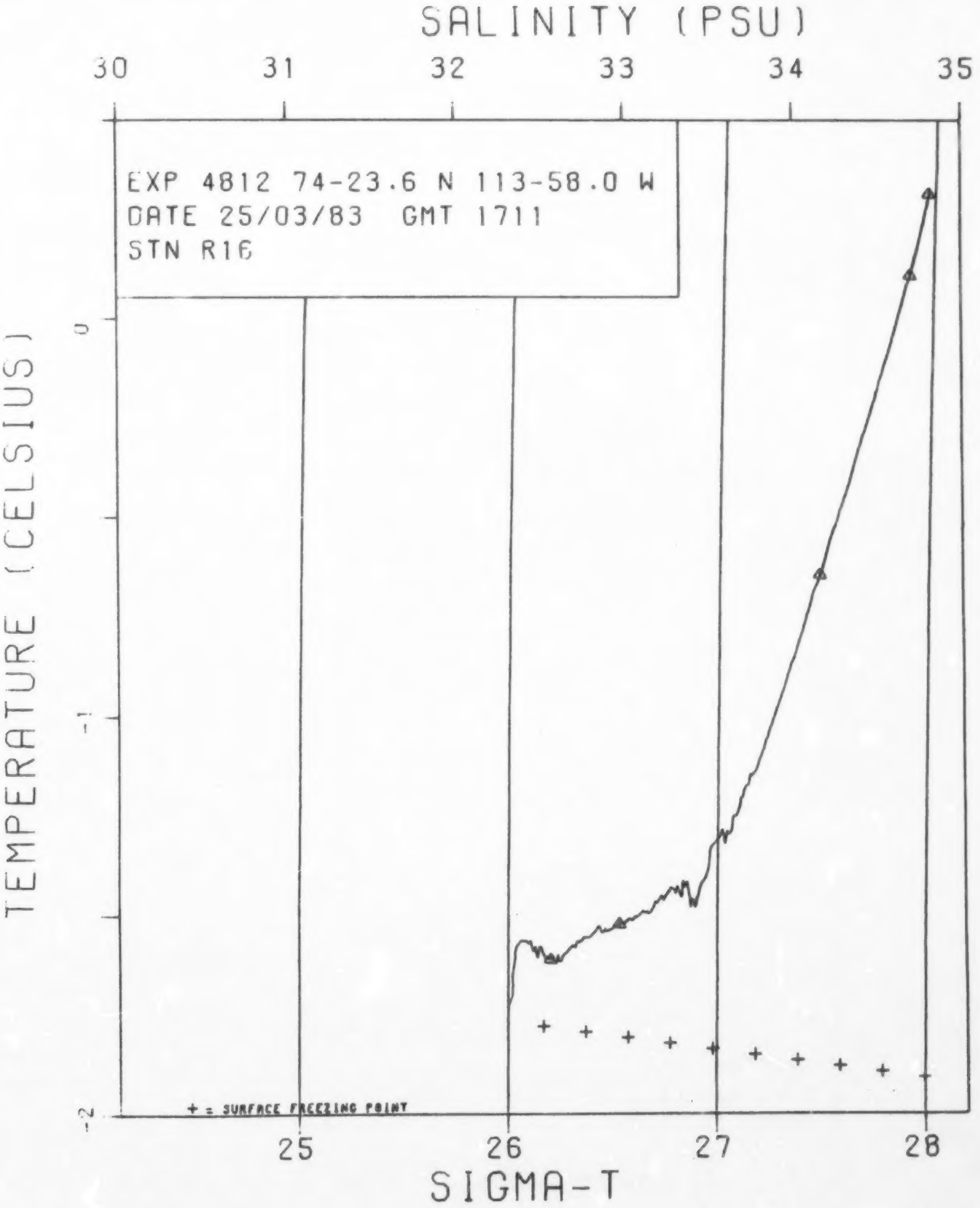
LAT.N. 74-23-35   LON.W. 113-58- 0   DATE 25/ 3/83   G.M.T. 1711

ICE THICKNESS   2.1 M   WATER DEPTH   401   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.764	.59618	32.283	25.971	.009	1437.3
5.0	-1.764	.59618	32.282	25.970	.010	1437.3
6.0	-1.763	.59620	32.282	25.970	.012	1437.4
7.0	-1.763	.59620	32.281	25.969	.014	1437.4
8.0	-1.764	.59621	32.282	25.970	.016	1437.4
9.0	-1.764	.59623	32.282	25.971	.018	1437.4
10.0	-1.764	.59624	32.282	25.971	.020	1437.4
11.0	-1.763	.59625	32.282	25.970	.022	1437.4
12.0	-1.764	.59626	32.282	25.970	.024	1437.5
13.0	-1.764	.59628	32.283	25.971	.026	1437.5
14.0	-1.764	.59628	32.282	25.970	.028	1437.5
15.0	-1.764	.59629	32.282	25.971	.030	1437.5
16.0	-1.764	.59631	32.283	25.971	.032	1437.5
17.0	-1.764	.59632	32.283	25.971	.034	1437.5
18.0	-1.764	.59633	32.283	25.971	.036	1437.6
19.0	-1.764	.59634	32.283	25.971	.038	1437.6
20.0	-1.764	.59635	32.283	25.971	.040	1437.6
21.0	-1.764	.59637	32.283	25.971	.042	1437.6
22.0	-1.764	.59638	32.283	25.971	.045	1437.6
23.0	-1.763	.59640	32.283	25.971	.047	1437.6
24.0	-1.760	.59648	32.284	25.972	.049	1437.7
25.0	-1.760	.59649	32.284	25.972	.051	1437.7
27.5	-1.752	.59670	32.286	25.973	.056	1437.8
30.0	-1.573	.60109	32.350	26.021	.061	1438.8
32.5	-1.565	.60198	32.392	26.055	.066	1438.9
35.0	-1.563	.60258	32.424	26.082	.070	1439.0
37.5	-1.588	.60256	32.448	26.101	.075	1438.9
40.0	-1.598	.60271	32.466	26.117	.080	1439.0
42.5	-1.579	.60339	32.485	26.131	.085	1439.1
45.0	-1.609	.60325	32.508	26.150	.089	1439.1
47.5	-1.604	.60357	32.520	26.160	.094	1439.1
50.0	-1.610	.60388	32.543	26.179	.098	1439.2
55.0	-1.617	.60430	32.573	26.204	.107	1439.3
60.0	-1.615	.60492	32.603	26.228	.116	1439.4
65.0	-1.595	.60574	32.628	26.248	.125	1439.6
70.0	-1.583	.60651	32.656	26.271	.134	1439.8
75.0	-1.582	.60717	32.692	26.299	.143	1439.9
80.0	-1.559	.60837	32.735	26.334	.151	1440.2
85.0	-1.547	.60965	32.794	26.381	.159	1440.4
90.0	-1.545	.61071	32.852	26.428	.167	1440.6
95.0	-1.535	.61177	32.900	26.467	.175	1440.8
100.0	-1.523	.61294	32.953	26.510	.183	1441.0
105.0	-1.508	.61420	33.007	26.554	.190	1441.2
110.0	-1.501	.61515	33.054	26.591	.197	1441.4

SITE R16 EXPERIMENT 4612

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.495	.61646	33.121	26.645	.204	1441.6
120.0	-1.465	.61810	33.181	26.694	.211	1441.9
125.0	-1.439	.61966	33.242	26.742	.216	1442.2
130.0	-1.440	.62073	33.302	26.791	.224	1442.4
135.0	-1.468	.62136	33.368	26.845	.230	1442.4
140.0	-1.450	.62257	33.416	26.884	.236	1442.6
145.0	-1.392	.62464	33.470	26.926	.242	1443.1
150.0	-1.308	.62740	33.537	26.978	.247	1443.6
155.0	-1.297	.62877	33.601	27.030	.252	1443.9
160.0	-1.212	.63163	33.670	27.083	.257	1444.4
165.0	-1.145	.63400	33.732	27.130	.262	1444.9
170.0	-1.108	.63570	33.787	27.174	.266	1445.3
175.0	-1.019	.63875	33.862	27.231	.270	1445.9
180.0	-.958	.64087	33.913	27.271	.274	1446.3
185.0	-.874	.64363	33.976	27.319	.278	1446.9
190.0	-.793	.64637	34.041	27.368	.282	1447.4
195.0	-.704	.64923	34.104	27.416	.285	1448.0
200.0	-.643	.65144	34.161	27.459	.288	1448.4
210.0	-.505	.65598	34.262	27.535	.294	1449.4
220.0	-.422	.65880	34.324	27.581	.299	1450.0
230.0	-.298	.66289	34.412	27.647	.304	1450.9
240.0	-.223	.66543	34.467	27.687	.308	1451.5
250.0	-.148	.66794	34.520	27.726	.312	1452.0
260.0	-.077	.67034	34.571	27.764	.315	1452.6
270.0	-.027	.67208	34.607	27.791	.318	1453.1
280.0	.029	.67396	34.645	27.818	.321	1453.5
290.0	.068	.67532	34.671	27.837	.324	1453.9
300.0	.108	.67676	34.702	27.860	.326	1454.3
310.0	.154	.67826	34.729	27.879	.328	1454.7
320.0	.180	.67920	34.747	27.893	.330	1455.0
330.0	.205	.68005	34.761	27.902	.332	1455.3
340.0	.235	.68106	34.778	27.914	.334	1455.6
350.0	.260	.68192	34.792	27.924	.336	1455.9
360.0	.285	.68276	34.806	27.934	.338	1456.2
370.0	.299	.68325	34.811	27.937	.339	1456.5
380.0	.304	.68350	34.814	27.939	.341	1456.7
390.0	.309	.68375	34.816	27.941	.342	1456.8
400.0	.312	.68392	34.817	27.941	.344	1457.0
401.8	.312	.68394	34.817	27.941	.344	1457.1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EXP 4812 74-23.6 N 113-58.0 W
DATE 25/03/83 GMT 1711
STN R16
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-2
+ = SURFACE FREEZING POINT
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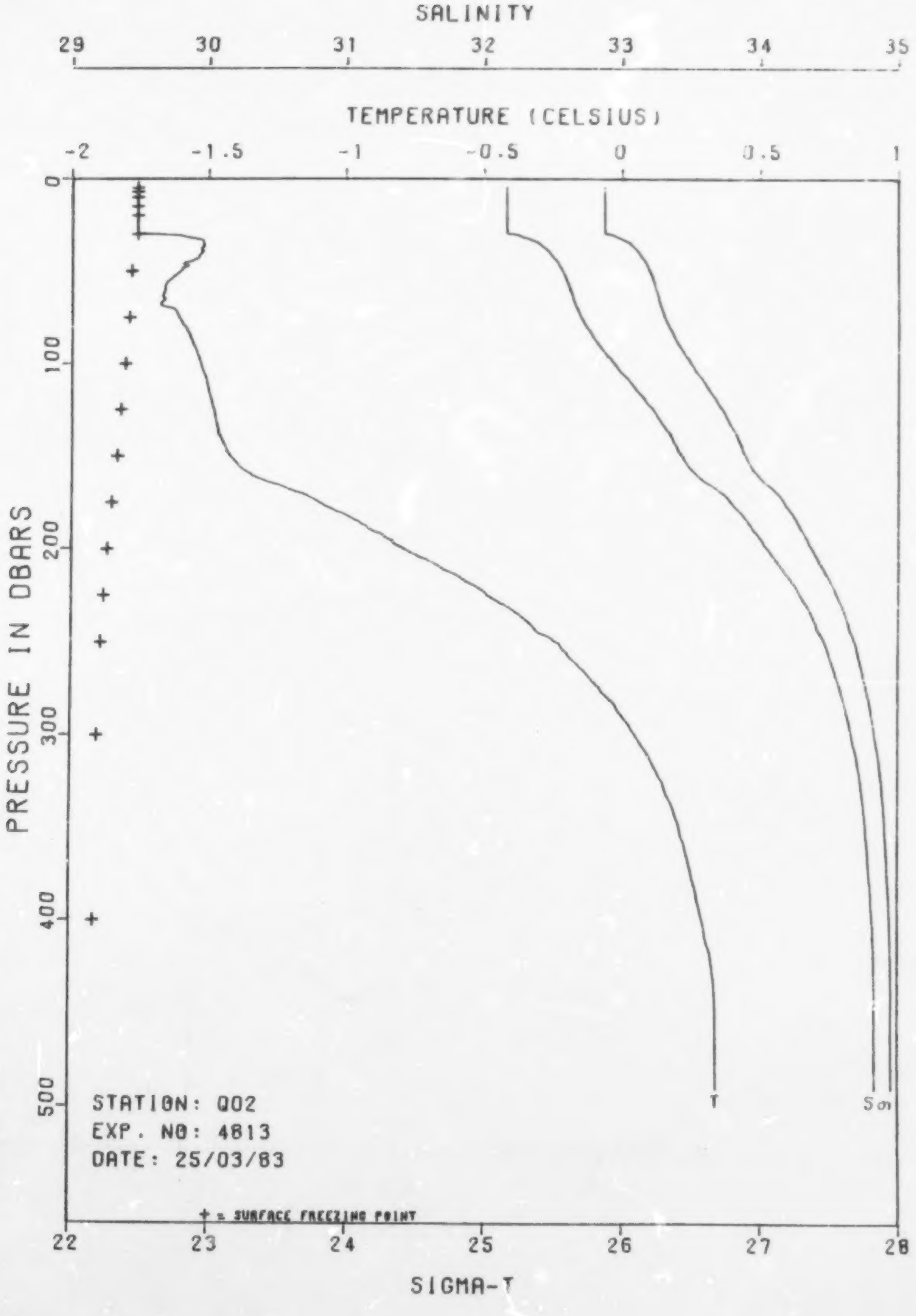
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: Q02
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE W02 EXPERIMENT 4813

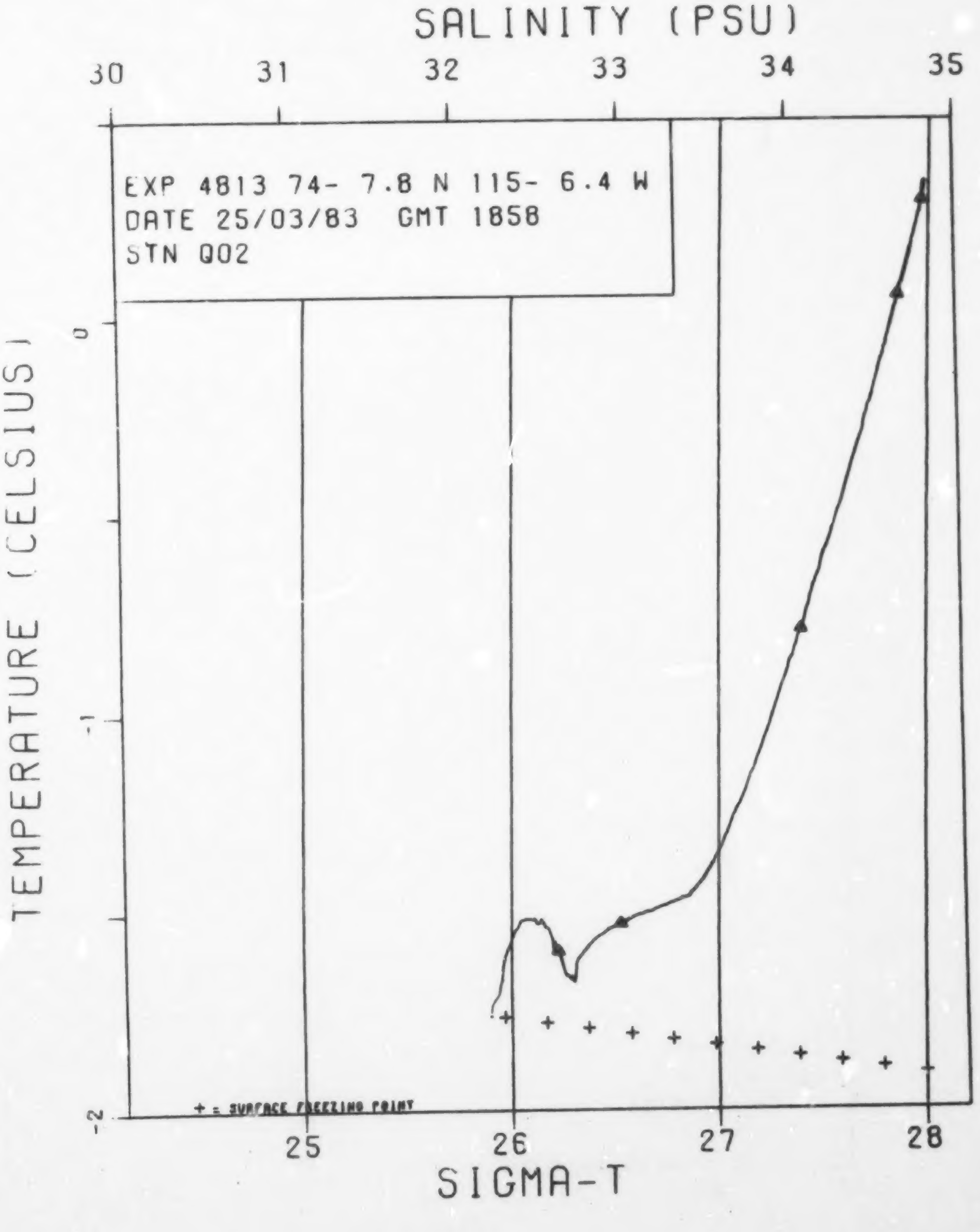
LAT.N. 74- 7-48 LON.W. 115- 6-23 DATE 25/ 3/83 G.M.T. 1858

ICE THICKNESS 2.0 M WATER DEPTH 488 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.763	.59420	32.163	25.874	.010	1437.2
5.0	-1.762	.59422	32.163	25.874	.011	1437.2
6.0	-1.762	.59424	32.164	25.874	.013	1437.2
7.0	-1.762	.59427	32.165	25.875	.015	1437.2
8.0	-1.763	.59426	32.164	25.874	.017	1437.2
9.0	-1.761	.59428	32.163	25.874	.019	1437.3
10.0	-1.762	.59434	32.167	25.877	.021	1437.3
11.0	-1.762	.59429	32.163	25.874	.023	1437.3
12.0	-1.762	.59431	32.164	25.874	.025	1437.3
13.0	-1.762	.59430	32.163	25.874	.026	1437.3
14.0	-1.762	.59433	32.164	25.875	.030	1437.3
15.0	-1.762	.59434	32.164	25.874	.032	1437.4
16.0	-1.762	.59436	32.164	25.875	.034	1437.4
17.0	-1.762	.59437	32.164	25.875	.036	1437.4
18.0	-1.762	.59439	32.165	25.875	.038	1437.4
19.0	-1.762	.59440	32.165	25.875	.040	1437.4
20.0	-1.762	.59442	32.166	25.876	.042	1437.4
21.0	-1.762	.59443	32.165	25.875	.044	1437.5
22.0	-1.762	.59444	32.166	25.876	.047	1437.5
23.0	-1.761	.59446	32.166	25.876	.049	1437.5
24.0	-1.762	.59446	32.166	25.876	.051	1437.5
25.0	-1.762	.59447	32.166	25.876	.053	1437.5
27.5	-1.761	.59450	32.165	25.875	.058	1437.6
30.0	-1.719	.59577	32.193	25.897	.063	1437.8
32.5	-1.543	.60119	32.322	25.998	.069	1438.9
35.0	-1.519	.60299	32.400	26.061	.073	1439.2
37.5	-1.529	.60353	32.442	26.095	.078	1439.2
40.0	-1.525	.60423	32.476	26.123	.083	1439.3
42.5	-1.540	.60442	32.502	26.144	.088	1439.3
45.0	-1.572	.60438	32.534	26.171	.092	1439.3
47.5	-1.575	.60465	32.552	26.186	.097	1439.3
50.0	-1.604	.60449	32.573	26.203	.101	1439.2
55.0	-1.646	.60427	32.603	26.228	.110	1439.2
60.0	-1.663	.60444	32.628	26.250	.119	1439.2
65.0	-1.661	.60490	32.650	26.267	.128	1439.3
70.0	-1.635	.60590	32.678	26.289	.136	1439.6
75.0	-1.609	.60693	32.707	26.312	.145	1439.8
80.0	-1.587	.60808	32.748	26.345	.153	1440.1
85.0	-1.569	.60917	32.790	26.378	.162	1440.3
90.0	-1.556	.61025	32.837	26.416	.170	1440.5
95.0	-1.541	.61150	32.891	26.460	.178	1440.7
100.0	-1.530	.61270	32.947	26.505	.185	1440.9
105.0	-1.519	.61387	33.000	26.548	.193	1441.2
110.0	-1.508	.61519	33.064	26.599	.200	1441.4

SITE 002 EXPERIMENT 461

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.501	.61625	33.115	26.641	.207	1441.6
120.0	-1.490	.61744	33.170	26.686	.214	1441.9
125.0	-1.481	.61866	33.230	26.733	.220	1442.0
130.0	-1.475	.61953	33.271	26.767	.227	1442.2
135.0	-1.465	.62055	33.317	26.804	.233	1442.3
140.0	-1.456	.62156	33.363	26.841	.239	1442.5
145.0	-1.439	.62256	33.400	26.871	.245	1442.8
150.0	-1.421	.62362	33.440	26.902	.250	1443.0
155.0	-1.392	.62489	33.480	26.934	.256	1443.2
160.0	-1.343	.62692	33.541	26.982	.261	1443.6
165.0	-1.255	.63016	33.630	27.052	.267	1444.3
170.0	-1.159	.63374	33.729	27.129	.271	1444.9
175.0	-1.095	.63607	33.791	27.177	.276	1445.4
180.0	-1.024	.63854	33.852	27.224	.280	1445.9
185.0	-.954	.64093	33.910	27.268	.284	1446.4
190.0	-.904	.64268	33.952	27.301	.286	1446.8
195.0	-.836	.64504	34.010	27.345	.292	1447.3
200.0	-.788	.64675	34.052	27.377	.295	1447.6
210.0	-.655	.65112	34.149	27.450	.302	1448.5
220.0	-.528	.65548	34.252	27.527	.307	1449.4
230.0	-.423	.65908	34.335	27.590	.312	1450.2
240.0	-.331	.66211	34.399	27.638	.317	1450.9
250.0	-.233	.66536	34.468	27.686	.321	1451.6
260.0	-.172	.66749	34.514	27.723	.325	1452.1
270.0	-.108	.66954	34.554	27.752	.328	1452.6
280.0	-.046	.67171	34.601	27.787	.332	1453.1
290.0	.006	.67340	34.633	27.809	.335	1453.6
300.0	.052	.67495	34.663	27.831	.337	1454.0
310.0	.095	.67651	34.697	27.856	.340	1454.4
320.0	.130	.67770	34.718	27.872	.342	1454.7
330.0	.158	.67872	34.739	27.887	.344	1455.1
340.0	.189	.67973	34.754	27.897	.346	1455.4
350.0	.211	.68051	34.768	27.908	.348	1455.7
360.0	.229	.68118	34.779	27.915	.350	1455.9
370.0	.246	.68182	34.790	27.923	.352	1456.2
380.0	.262	.68240	34.799	27.930	.353	1456.4
390.0	.278	.68296	34.807	27.935	.355	1456.7
400.0	.293	.68353	34.817	27.942	.357	1456.9
425.0	.329	.68472	34.828	27.949	.361	1457.5
450.0	.339	.68528	34.833	27.952	.364	1458.0
475.0	.341	.68556	34.832	27.952	.368	1458.4
490.5	.341	.68574	34.832	27.952	.370	1458.7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EXP 4813 74- 7.8 N 115- 6.4 W
DATE 25/03/83 GMT 1858
STN Q02
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+ = SURFACE FREEZING POINT
25
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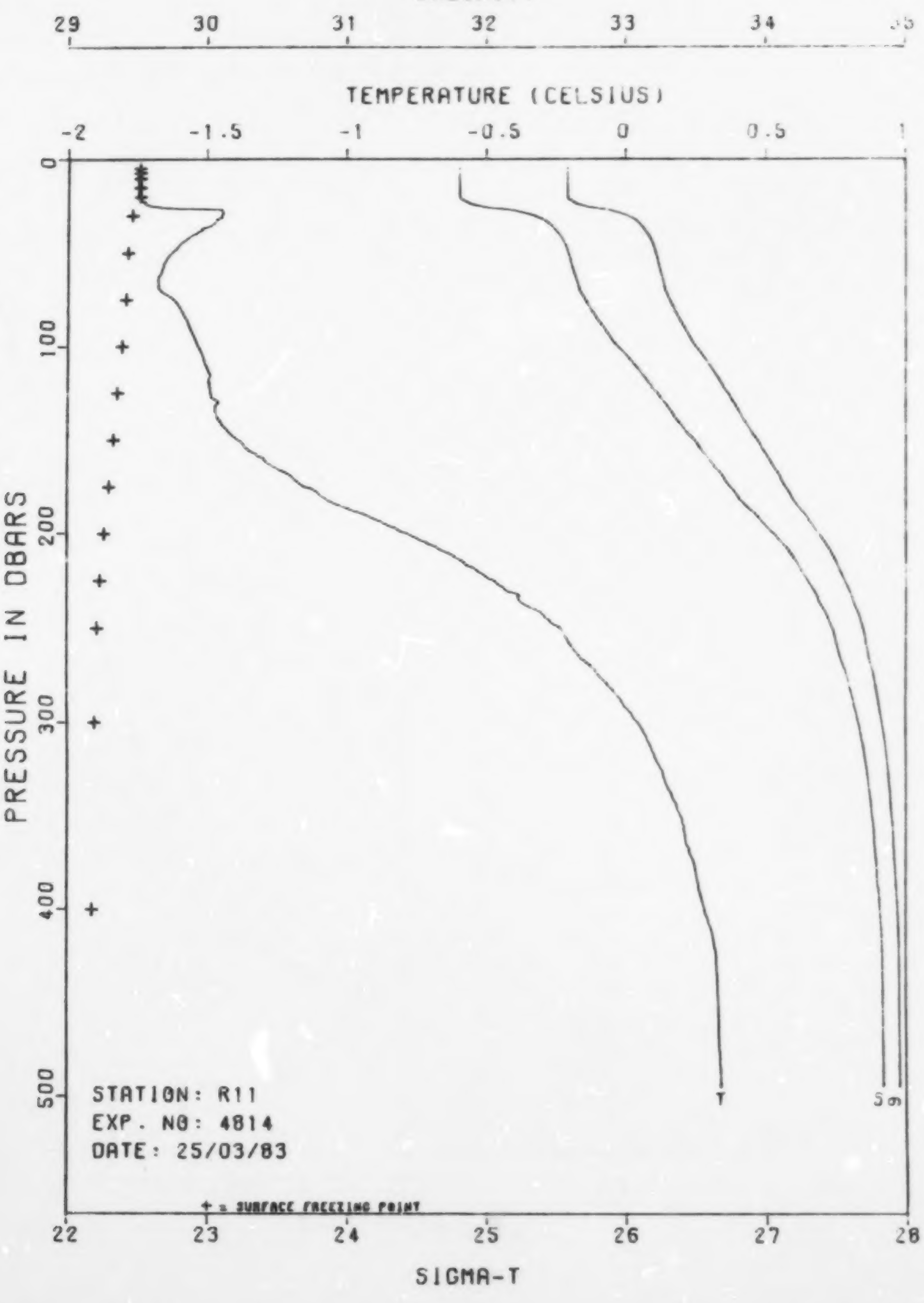
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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-1
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PRESSURE IN DBARS
0
100
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STATION: R11
EXP. NO: 4814
DATE: 25/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE R11 EXPERIMENT #814

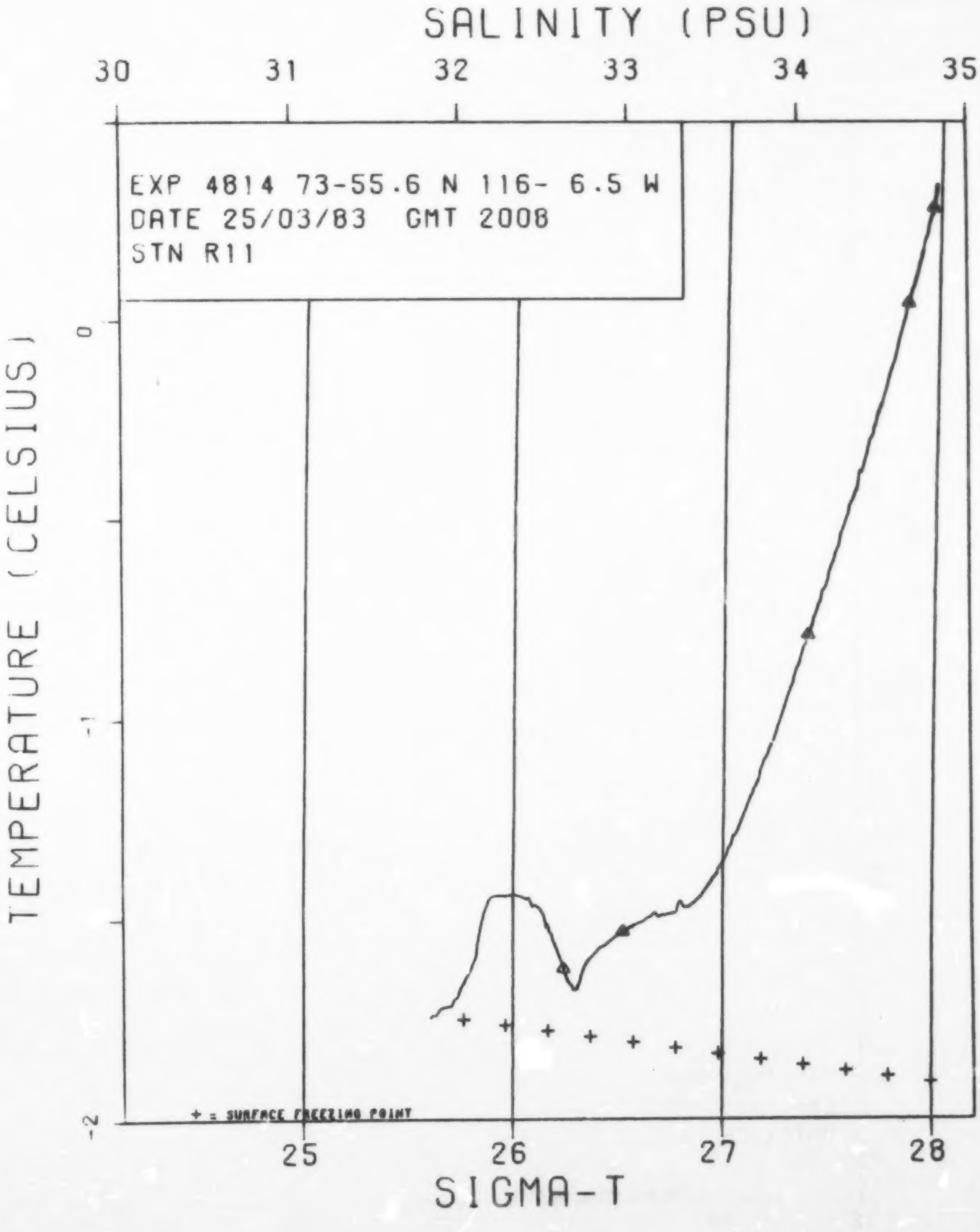
LAT.N. 73-55-35 LON.W. 116- 6-30 DATE 25/ 3/83 G.M.T. 2008

ICE THICKNESS 2.0 M WATER DEPTH 493 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.8	-1.746	.58850	31.805	25.583	.012	1436.8
5.0	-1.745	.58850	31.805	25.582	.012	1436.8
6.0	-1.746	.58850	31.806	25.583	.014	1436.8
7.0	-1.745	.58851	31.805	25.582	.017	1436.8
8.0	-1.745	.58853	31.805	25.583	.019	1436.8
9.0	-1.746	.58856	31.807	25.584	.022	1436.8
10.0	-1.746	.58856	31.806	25.583	.024	1436.8
11.0	-1.745	.58857	31.805	25.582	.026	1436.9
12.0	-1.745	.58857	31.805	25.583	.029	1436.9
13.0	-1.745	.58859	31.806	25.583	.031	1436.9
14.0	-1.746	.58861	31.807	25.584	.033	1436.9
15.0	-1.746	.58862	31.807	25.584	.036	1436.9
16.0	-1.746	.58863	31.806	25.583	.036	1436.9
17.0	-1.745	.58866	31.807	25.584	.041	1437.0
18.0	-1.746	.58866	31.808	25.585	.043	1437.0
19.0	-1.745	.58867	31.807	25.584	.045	1437.0
20.0	-1.745	.58868	31.806	25.583	.048	1437.0
21.0	-1.742	.58883	31.812	25.588	.050	1437.0
22.0	-1.741	.58921	31.833	25.605	.053	1437.1
23.0	-1.727	.58988	31.856	25.623	.055	1437.2
24.0	-1.719	.59056	31.868	25.649	.057	1437.3
25.0	-1.707	.59166	31.939	25.691	.060	1437.5
27.5	-1.441	.60086	32.195	25.892	.065	1439.1
30.0	-1.443	.60306	32.325	25.998	.070	1439.3
32.5	-1.472	.60401	32.411	26.069	.075	1439.4
35.0	-1.478	.60470	32.456	26.105	.080	1439.4
37.5	-1.523	.60448	32.492	26.135	.085	1439.3
40.0	-1.536	.60470	32.519	26.158	.089	1439.3
42.5	-1.569	.60456	32.543	26.178	.094	1439.3
45.0	-1.596	.60445	32.565	26.197	.096	1439.2
47.5	-1.610	.60444	32.577	26.207	.103	1439.2
50.0	-1.627	.60435	32.590	26.218	.107	1439.2
55.0	-1.650	.60429	32.608	26.233	.116	1439.2
60.0	-1.667	.60440	32.630	26.251	.125	1439.2
65.0	-1.677	.60463	32.652	26.269	.134	1439.3
70.0	-1.667	.60519	32.672	26.285	.142	1439.4
75.0	-1.621	.60679	32.712	26.316	.151	1439.8
80.0	-1.596	.60795	32.751	26.347	.159	1440.0
85.0	-1.576	.60910	32.793	26.381	.168	1440.3
90.0	-1.562	.61028	32.844	26.422	.176	1440.5
95.0	-1.546	.61141	32.891	26.460	.183	1440.7
100.0	-1.531	.61260	32.942	26.501	.191	1440.9
105.0	-1.515	.61403	33.005	26.552	.199	1441.2
110.0	-1.506	.61525	33.064	26.600	.206	1441.4

SITE H11 EXPERIMENT 4614

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.488	.61658	33.120	26.645	.213	1441.6
120.0	-1.489	.61745	33.170	26.685	.220	1441.8
125.0	-1.487	.61855	33.229	26.733	.226	1442.0
130.0	-1.457	.61999	33.278	26.772	.232	1442.2
135.0	-1.471	.62063	33.329	26.813	.239	1442.3
140.0	-1.453	.62182	33.376	26.852	.245	1442.6
145.0	-1.425	.62330	33.429	26.893	.250	1442.9
150.0	-1.391	.62505	33.490	26.942	.256	1443.2
155.0	-1.353	.62663	33.538	26.980	.261	1443.5
160.0	-1.293	.62878	33.594	27.023	.267	1444.0
165.0	-1.255	.63036	33.641	27.061	.272	1444.3
170.0	-1.193	.63257	33.699	27.105	.276	1444.7
175.0	-1.154	.63412	33.743	27.140	.281	1445.1
180.0	-1.091	.63633	33.798	27.183	.285	1445.5
185.0	-1.028	.63859	33.856	27.227	.290	1446.0
190.0	-.931	.64182	33.932	27.285	.294	1446.6
195.0	-.861	.64422	33.990	27.329	.297	1447.1
200.0	-.781	.64689	34.053	27.377	.301	1447.7
210.0	-.642	.65170	34.168	27.465	.307	1448.6
220.0	-.527	.65552	34.254	27.529	.313	1449.4
230.0	-.430	.65899	34.338	27.593	.318	1450.2
240.0	-.331	.66225	34.407	27.644	.323	1450.9
250.0	-.231	.66544	34.470	27.690	.327	1451.6
260.0	-.194	.66687	34.504	27.716	.331	1452.0
270.0	-.127	.66905	34.548	27.746	.334	1452.5
280.0	-.064	.67118	34.591	27.779	.337	1453.0
290.0	-.009	.67299	34.626	27.805	.340	1453.5
300.0	.043	.67467	34.658	27.828	.343	1453.9
310.0	.080	.67595	34.682	27.845	.346	1454.3
320.0	.109	.67706	34.705	27.863	.348	1454.6
330.0	.138	.67808	34.725	27.876	.350	1455.0
340.0	.167	.67903	34.740	27.888	.352	1455.3
350.0	.197	.68001	34.755	27.898	.354	1455.6
360.0	.211	.68063	34.769	27.908	.356	1455.8
370.0	.230	.68129	34.779	27.915	.358	1456.1
380.0	.250	.68201	34.791	27.924	.360	1456.4
390.0	.263	.68259	34.803	27.932	.362	1456.6
400.0	.282	.68324	34.812	27.939	.363	1456.9
425.0	.324	.68463	34.828	27.950	.367	1457.5
450.0	.331	.68507	34.831	27.951	.371	1458.0
475.0	.334	.68543	34.832	27.952	.374	1458.4
494.9	.340	.68577	34.833	27.952	.377	1458.7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EXP 4814 73-55.6 N 116- 6.5 W
DATE 25/03/83 GMT 2008
STN R11
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+ = SURFACE FREEZING POINT
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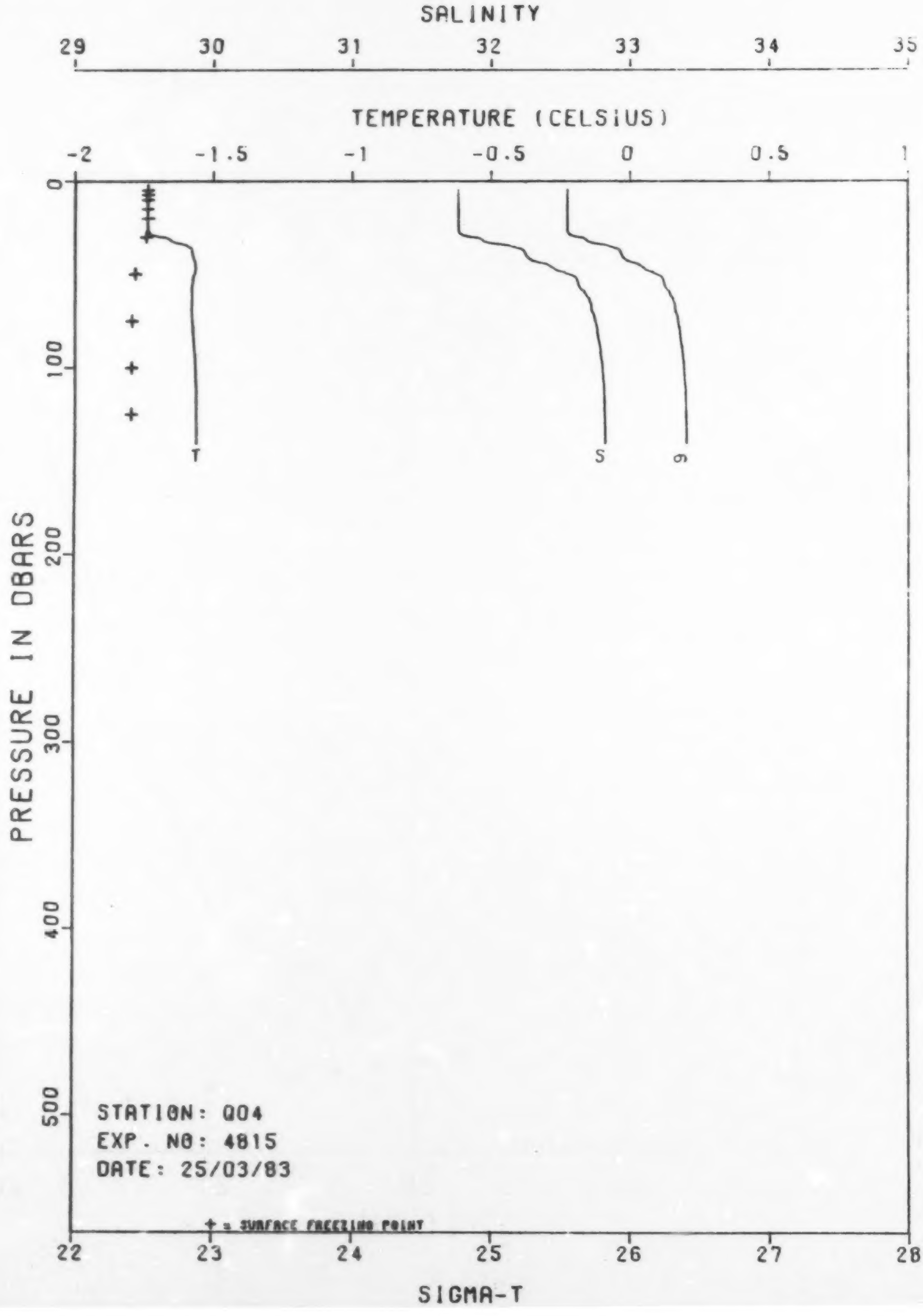
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: Q04
EXP. NO: 4815
DATE: 25/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE 004   EXPERIMENT 4815

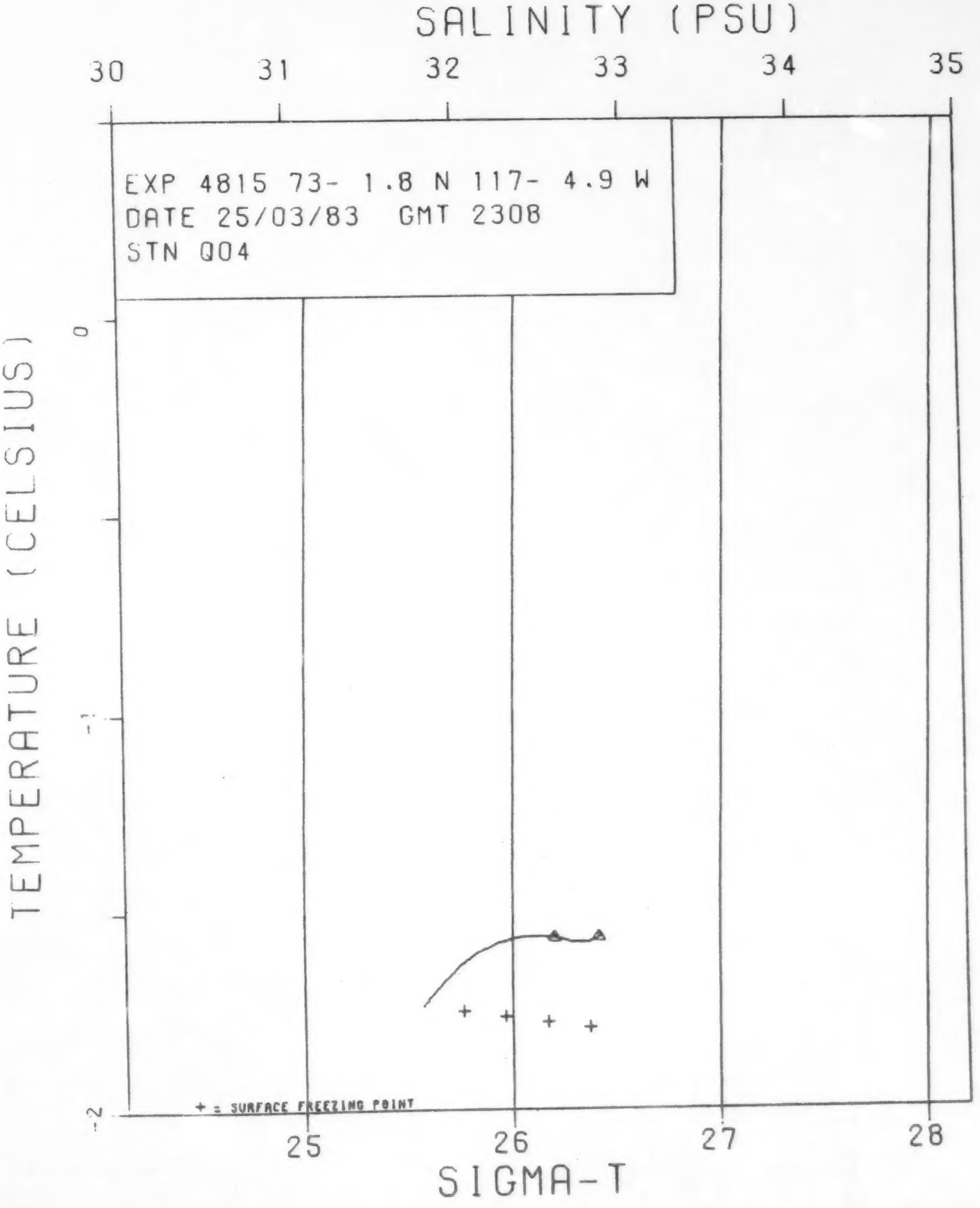
LAT.N. 73- 1-47   LON.W. 117- 4-53   DATE 25/ 3/83   G.M.T. 2308

ICE THICKNESS 2.1 M   WATER DEPTH 142 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.738	.58790	31.762	25.547	.011	1436.7
5.0	-1.739	.58791	31.763	25.548	.012	1436.7
6.0	-1.736	.58791	31.762	25.548	.015	1436.8
7.0	-1.738	.58792	31.762	25.547	.017	1436.8
8.0	-1.738	.58793	31.762	25.547	.019	1436.8
9.0	-1.738	.58794	31.762	25.547	.022	1436.8
10.0	-1.738	.58796	31.762	25.547	.024	1436.8
11.0	-1.738	.58796	31.762	25.547	.027	1436.8
12.0	-1.739	.58798	31.763	25.548	.029	1436.8
13.0	-1.738	.58799	31.762	25.547	.032	1436.9
14.0	-1.737	.58800	31.761	25.547	.034	1436.9
15.0	-1.739	.58801	31.763	25.548	.036	1436.9
16.0	-1.736	.58803	31.763	25.548	.039	1436.9
17.0	-1.739	.58803	31.763	25.548	.041	1436.9
18.0	-1.738	.58805	31.763	25.548	.044	1436.9
19.0	-1.738	.58806	31.763	25.548	.046	1437.0
20.0	-1.736	.58807	31.763	25.548	.049	1437.0
21.0	-1.739	.58808	31.764	25.549	.051	1437.0
22.0	-1.738	.58810	31.763	25.548	.053	1437.0
23.0	-1.736	.58811	31.763	25.548	.056	1437.0
24.0	-1.737	.58815	31.765	25.549	.058	1437.1
25.0	-1.737	.58816	31.764	25.549	.061	1437.1
27.5	-1.736	.58821	31.764	25.549	.067	1437.1
30.0	-1.691	.59055	31.853	25.620	.073	1437.5
32.5	-1.651	.59297	31.952	25.700	.078	1437.9
35.0	-1.593	.59726	32.141	25.852	.084	1438.5
37.5	-1.576	.59921	32.237	25.929	.089	1438.7
40.0	-1.574	.59950	32.251	25.941	.094	1438.8
42.5	-1.569	.60029	32.290	25.973	.099	1438.9
45.0	-1.564	.60241	32.409	26.069	.104	1439.1
47.5	-1.563	.60331	32.460	26.110	.109	1439.2
50.0	-1.567	.60479	32.550	26.184	.114	1439.4
55.0	-1.577	.60597	32.627	26.247	.123	1439.5
60.0	-1.577	.60686	32.677	26.288	.131	1439.7
65.0	-1.576	.60751	32.713	26.317	.140	1439.8
70.0	-1.579	.60777	32.727	26.328	.148	1439.9
75.0	-1.576	.60831	32.752	26.348	.157	1440.0
80.0	-1.574	.60863	32.767	26.360	.165	1440.2
85.0	-1.572	.60886	32.775	26.367	.173	1440.3
90.0	-1.570	.60921	32.790	26.379	.181	1440.4
95.0	-1.568	.60942	32.797	26.385	.189	1440.5
100.0	-1.566	.60961	32.804	26.390	.198	1440.6
105.0	-1.565	.60977	32.809	26.394	.206	1440.7
110.0	-1.564	.60995	32.815	26.399	.214	1440.8

SITE 004 EXPERIMENT 4815

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.563	.61007	32.819	26.402	.222	1440.9
120.0	-1.563	.61014	32.820	26.403	.230	1440.9
125.0	-1.562	.61021	32.819	26.402	.238	1441.0
130.0	-1.562	.61028	32.821	26.404	.246	1441.1
135.0	-1.562	.61037	32.822	26.404	.254	1441.2
140.0	-1.561	.61045	32.823	26.406	.262	1441.3
141.2	-1.561	.61045	32.822	26.405	.264	1441.3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35
EXP 4815 73- 1.8 N 117- 4.9 W
DATE 25/03/83 GMT 2308
STN Q04
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-2
+ = SURFACE FREEZING POINT
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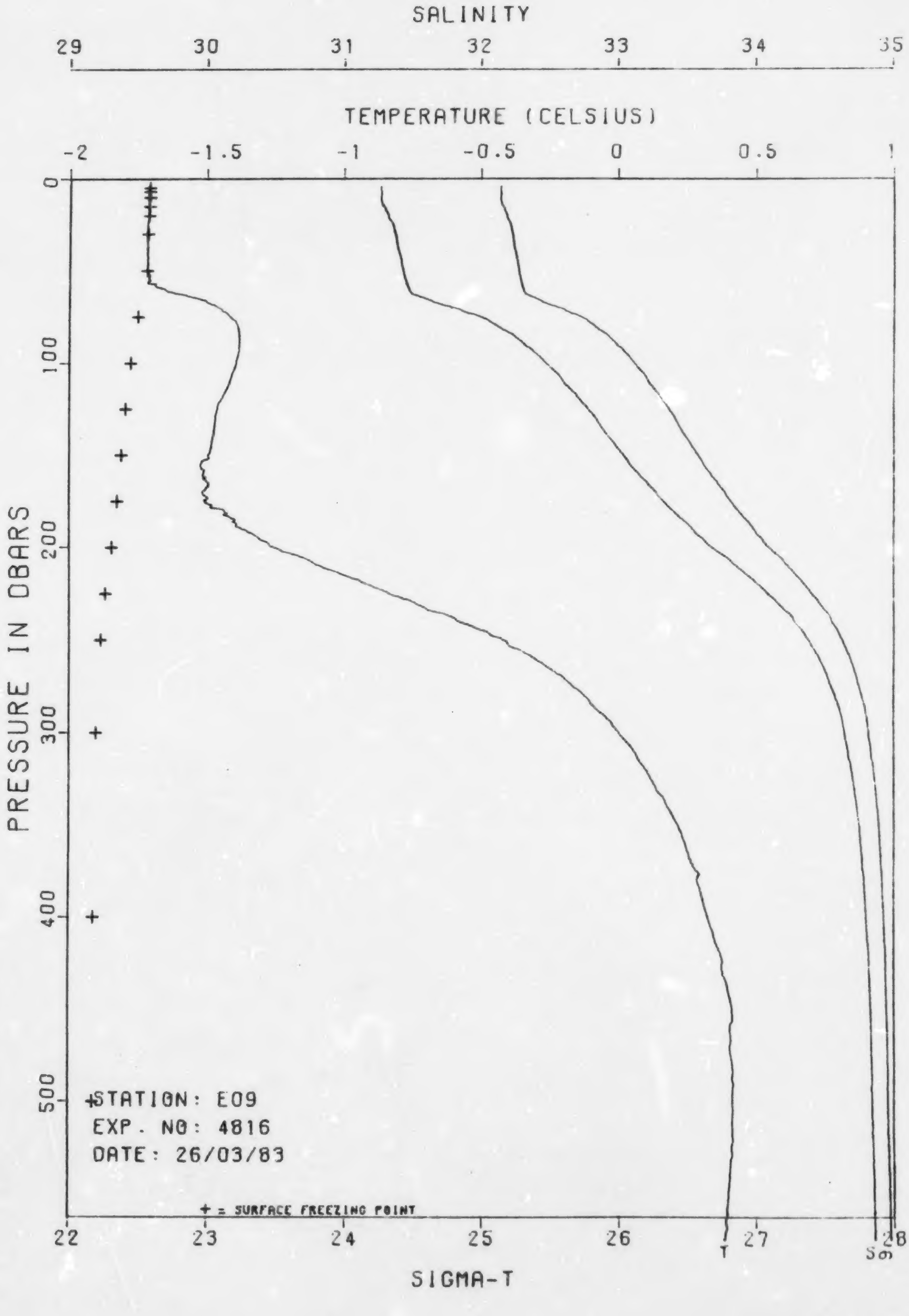
SIGMA-T


SALINITY
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31
32
33
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35
TEMPERATURE (CELSIUS)
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-1
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PRESSURE IN DBARS
0
100
200
300
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STATION: E09
EXP. NO: 4816
DATE: 26/03/83
+ = SURFACE FREEZING POINT
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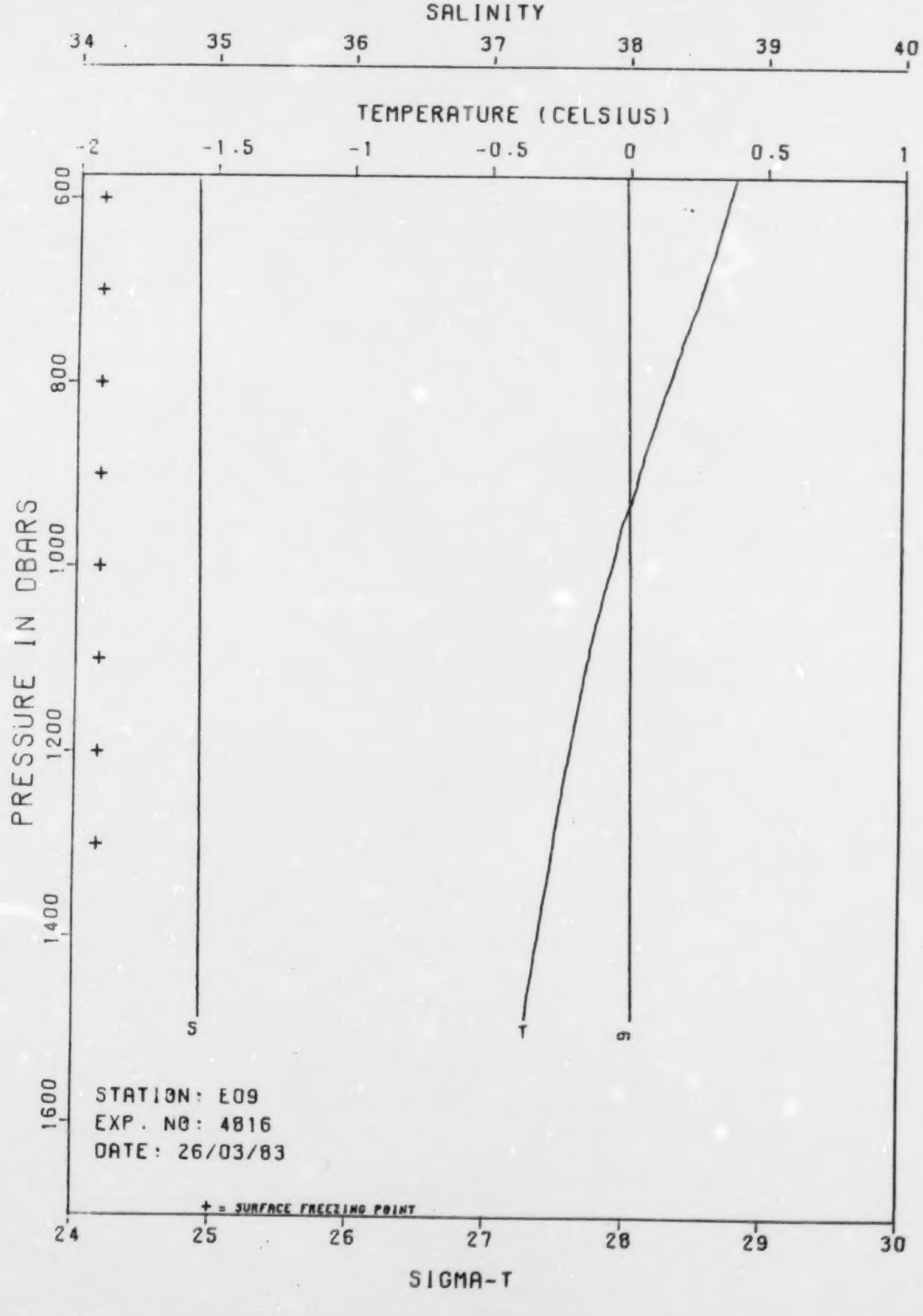
SIGMA-T


SALINITY
34
35
36
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38
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40
TEMPERATURE (CELSIUS)
-2
-1.5
-1
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PRESSURE IN DBARS
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STATION: E09
EXP. NO: 4816
DATE: 26/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE E09 EXPERIMENT 4616

LAT.N. 75-49-24 LON.W. 129-28-24 DATE 26/ 3/83 G.M.T. 1746

ICE THICKNESS 2.3 M WATER DEPTH 1473 M

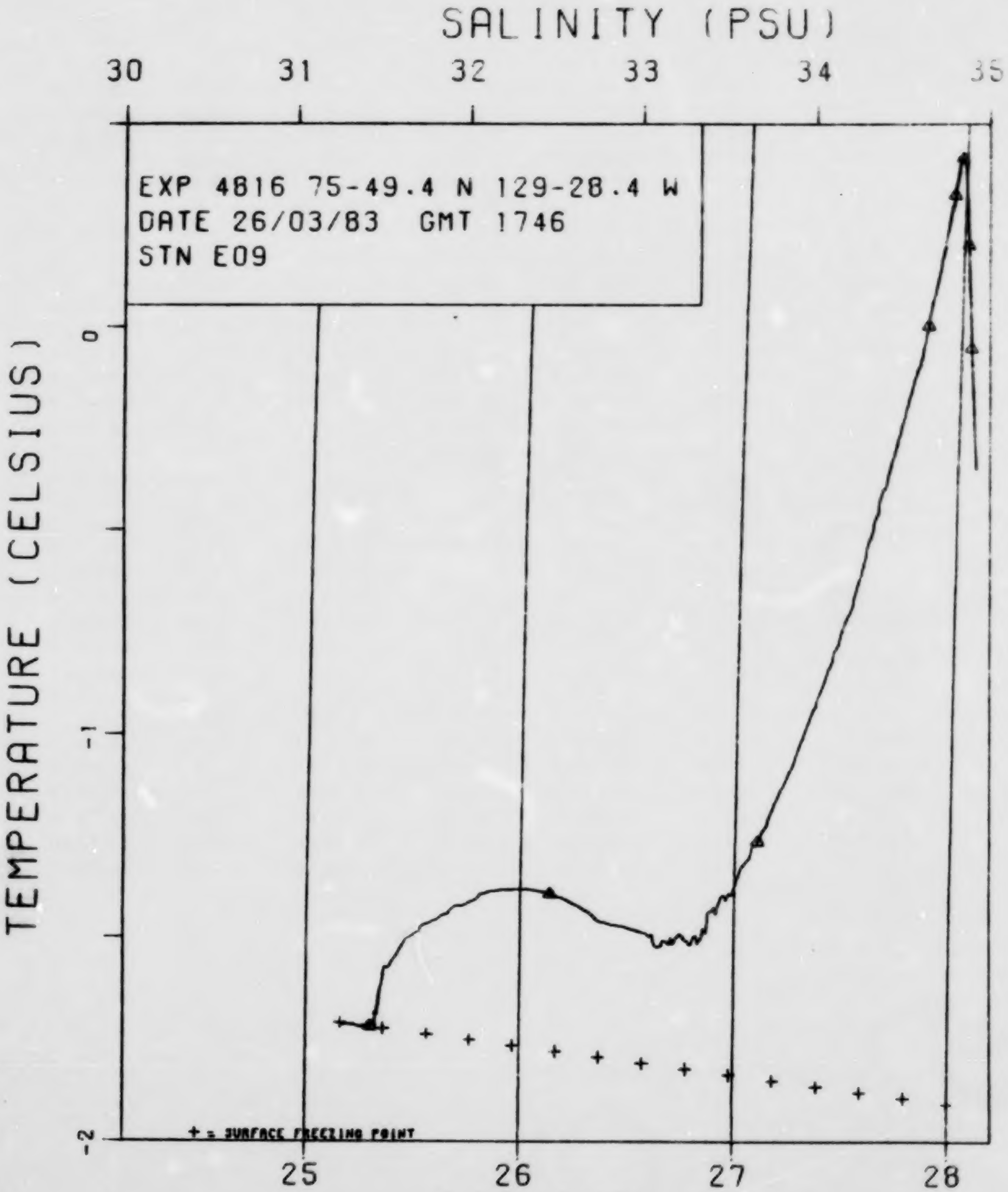
PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.714	.57994	31.265	25.143	.012	1436.1
5.0	-1.715	.57996	31.267	25.145	.014	1436.1
6.0	-1.715	.57984	31.259	25.138	.017	1436.2
7.0	-1.715	.58000	31.269	25.146	.020	1436.2
8.0	-1.714	.57992	31.262	25.140	.023	1436.2
9.0	-1.714	.58004	31.269	25.146	.025	1436.2
10.0	-1.715	.57999	31.266	25.144	.028	1436.2
11.0	-1.715	.58001	31.266	25.144	.031	1436.2
12.0	-1.714	.58003	31.266	25.144	.034	1436.3
13.0	-1.713	.58018	31.273	25.150	.037	1436.3
14.0	-1.713	.58011	31.268	25.146	.039	1436.3
15.0	-1.713	.58040	31.285	25.159	.042	1436.3
16.0	-1.713	.58057	31.294	25.167	.045	1436.4
17.0	-1.714	.58071	31.303	25.174	.048	1436.4
18.0	-1.713	.58083	31.308	25.178	.051	1436.4
19.0	-1.714	.58086	31.311	25.181	.053	1436.4
20.0	-1.714	.58103	31.321	25.188	.056	1436.5
21.0	-1.714	.58100	31.317	25.185	.059	1436.5
22.0	-1.713	.58114	31.324	25.191	.062	1436.5
23.0	-1.716	.58136	31.340	25.204	.064	1436.5
24.0	-1.717	.58145	31.346	25.209	.067	1436.6
25.0	-1.718	.58162	31.356	25.217	.070	1436.6
27.5	-1.719	.58171	31.361	25.221	.077	1436.6
30.0	-1.719	.58190	31.370	25.229	.084	1436.7
32.5	-1.718	.58205	31.377	25.234	.090	1436.7
35.0	-1.716	.58215	31.381	25.238	.097	1436.8
37.5	-1.715	.58239	31.391	25.245	.104	1436.9
40.0	-1.716	.58250	31.398	25.251	.111	1436.9
42.5	-1.717	.58273	31.411	25.261	.117	1437.0
45.0	-1.718	.58281	31.416	25.265	.124	1437.0
47.5	-1.716	.58297	31.420	25.269	.131	1437.1
50.0	-1.719	.58307	31.429	25.276	.138	1437.1
55.0	-1.713	.58352	31.445	25.289	.151	1437.2
60.0	-1.655	.58502	31.470	25.306	.164	1437.6
65.0	-1.536	.58912	31.563	25.398	.177	1438.4
70.0	-1.460	.59392	31.781	25.557	.190	1439.1
75.0	-1.415	.59832	31.989	25.724	.201	1439.7
80.0	-1.387	.60102	32.114	25.825	.212	1440.1
85.0	-1.382	.60326	32.237	25.925	.223	1440.4
90.0	-1.382	.60470	32.318	25.991	.233	1440.6
95.0	-1.386	.60610	32.402	26.059	.243	1440.8
100.0	-1.394	.60715	32.470	26.114	.253	1440.9
105.0	-1.405	.60817	32.538	26.170	.262	1441.0
110.0	-1.418	.60897	32.597	26.218	.271	1441.1

SITE E09   EXPERIMENT 4.1C

PRESSURE (DBARS)	TEMP (DEG.C)	COND. H	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.432	.60988	32.663	26.272	.280	1441.3
120.0	-1.450	.61057	32.721	26.319	.288	1441.3
125.0	-1.462	.61138	32.777	26.366	.296	1441.4
130.0	-1.468	.61228	32.835	26.413	.305	1441.6
135.0	-1.472	.61302	32.880	26.449	.312	1441.7
140.0	-1.478	.61379	32.929	26.489	.320	1441.8
145.0	-1.485	.61454	32.977	26.529	.328	1441.9
150.0	-1.496	.61533	33.034	26.575	.335	1442.0
155.0	-1.522	.61570	33.082	26.614	.342	1442.1
160.0	-1.512	.61700	33.144	26.665	.349	1442.3
165.0	-1.493	.61854	33.211	26.719	.356	1442.6
170.0	-1.519	.61913	33.271	26.766	.362	1442.6
175.0	-1.506	.62035	33.326	26.812	.368	1442.8
180.0	-1.436	.62276	33.388	26.861	.374	1443.3
185.0	-1.395	.62487	33.463	26.920	.380	1443.7
190.0	-1.372	.62658	33.535	26.978	.385	1444.0
195.0	-1.310	.62900	33.604	27.032	.390	1444.5
200.0	-1.256	.63121	33.671	27.085	.395	1444.9
210.0	-1.093	.63740	33.845	27.220	.404	1446.1
220.0	-.916	.64363	34.003	27.342	.412	1447.3
230.0	-.742	.64963	34.148	27.453	.419	1448.5
240.0	-.583	.65493	34.270	27.545	.424	1449.5
250.0	-.418	.66004	34.372	27.620	.429	1450.6
260.0	-.302	.66388	34.456	27.682	.433	1451.4
270.0	-.199	.66712	34.519	27.726	.437	1452.1
280.0	-.122	.66969	34.572	27.767	.440	1452.7
290.0	-.055	.67187	34.615	27.796	.443	1453.3
300.0	.003	.67365	34.644	27.819	.446	1453.7
310.0	.057	.67523	34.668	27.835	.449	1454.2
320.0	.099	.67662	34.693	27.853	.451	1454.6
330.0	.136	.67779	34.711	27.865	.454	1454.9
340.0	.178	.67908	34.730	27.879	.456	1455.3
350.0	.214	.68021	34.748	27.891	.458	1455.7
360.0	.242	.68111	34.760	27.900	.460	1456.0
370.0	.263	.68179	34.769	27.906	.462	1456.2
380.0	.285	.68262	34.786	27.918	.464	1456.5
390.0	.306	.68325	34.791	27.921	.466	1456.8
400.0	.326	.68388	34.799	27.926	.467	1457.1
425.0	.381	.68554	34.815	27.935	.472	1457.7
450.0	.415	.68675	34.831	27.946	.475	1458.3
475.0	.409	.68702	34.837	27.952	.479	1458.7
500.0	.415	.68752	34.843	27.956	.483	1459.2
525.0	.412	.68782	34.850	27.962	.487	1459.6
550.0	.399	.68792	34.855	27.967	.490	1459.9
575.0	.385	.68796	34.859	27.971	.493	1460.3
600.0	.358	.68777	34.864	27.976	.497	1460.6
625.0	.337	.68771	34.869	27.982	.500	1460.9
650.0	.312	.68749	34.870	27.984	.503	1461.2
675.0	.287	.68725	34.871	27.986	.506	1461.5

SITE E09 EXPERIMENT 4816

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
700.0	.259	.68702	34.875	27.991	.509	1461.8
725.0	.229	.68667	34.873	27.991	.512	1462.1
750.0	.199	.68637	34.876	27.995	.514	1462.4
775.0	.171	.68613	34.880	28.000	.517	1462.6
800.0	.144	.68587	34.882	28.003	.519	1462.9
825.0	.115	.68562	34.885	28.008	.522	1463.2
850.0	.088	.68535	34.886	28.010	.524	1463.5
875.0	.061	.68504	34.885	28.010	.526	1463.8
900.0	.040	.68493	34.888	28.014	.529	1464.1
925.0	.018	.68481	34.892	28.018	.531	1464.4
950.0	-.018	.68436	34.892	28.020	.533	1464.7
975.0	-.037	.68425	34.893	28.022	.535	1465.0
1000.0	-.056	.68417	34.896	28.025	.537	1465.4
1025.0	-.081	.68393	34.896	28.027	.539	1465.7
1050.0	-.101	.68382	34.898	28.029	.540	1466.0
1075.0	-.120	.68369	34.898	28.030	.542	1466.3
1100.0	-.139	.68363	34.901	28.034	.544	1466.6
1125.0	-.154	.68360	34.903	28.036	.545	1467.0
1150.0	-.169	.68354	34.901	28.036	.547	1467.3
1175.0	-.185	.68351	34.904	28.039	.548	1467.7
1200.0	-.197	.68352	34.905	28.040	.550	1468.0
1225.0	-.217	.68342	34.907	28.043	.551	1468.4
1250.0	-.230	.68344	34.909	28.045	.552	1468.7
1275.0	-.244	.68343	34.910	28.046	.553	1469.1
1300.0	-.256	.68347	34.911	28.048	.554	1469.5
1325.0	-.267	.68352	34.913	28.050	.556	1469.8
1350.0	-.283	.68349	34.915	28.052	.557	1470.2
1375.0	-.295	.68351	34.916	28.053	.558	1470.5
1400.0	-.308	.68353	34.917	28.055	.559	1470.9
1425.0	-.323	.68350	34.919	28.058	.559	1471.2
1450.0	-.336	.68352	34.921	28.060	.560	1471.6
1475.0	-.349	.68355	34.922	28.062	.561	1472.0
1487.4	-.353	.68359	34.923	28.062	.561	1472.1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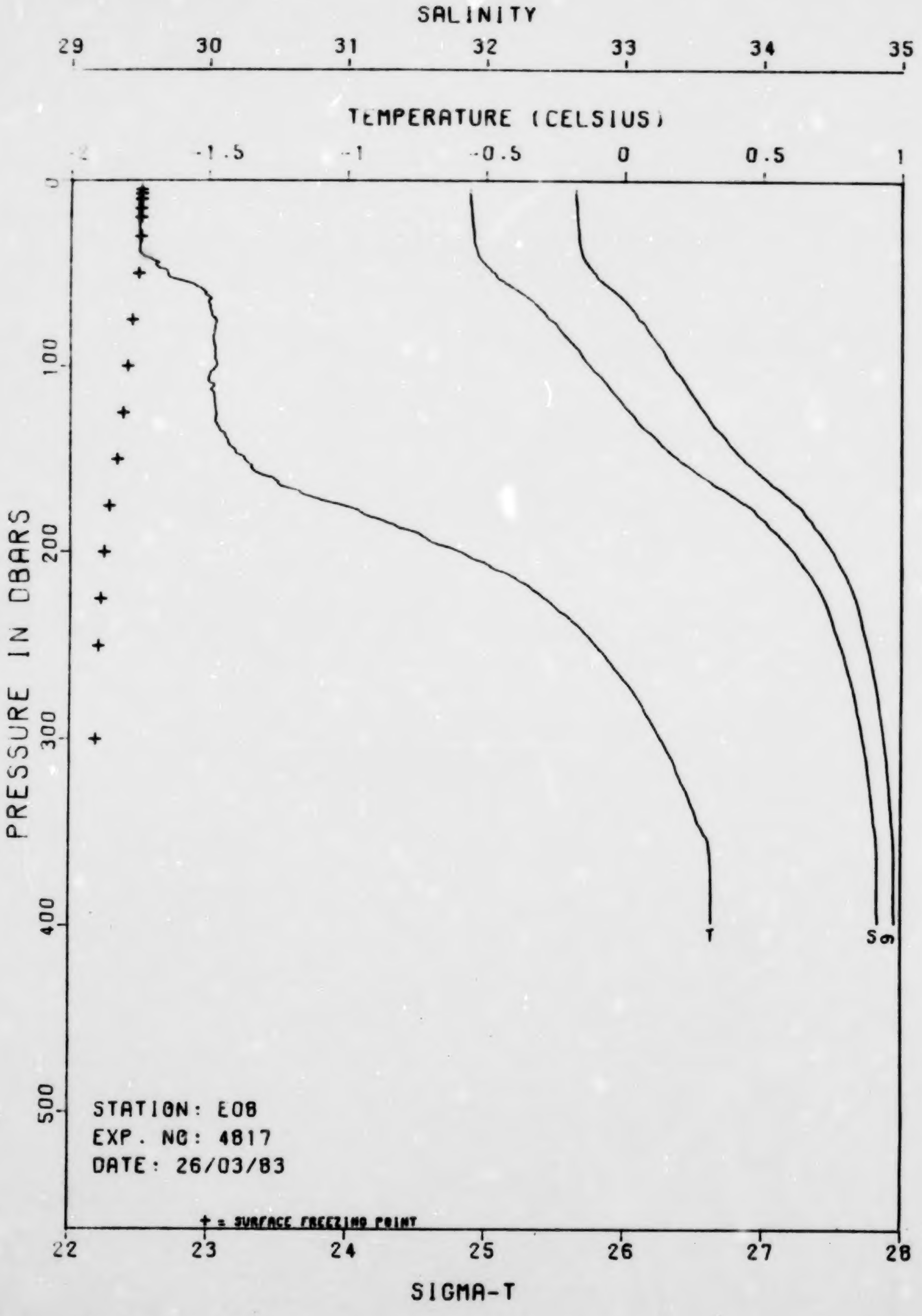
SIGMA-T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PRESSURE IN DBARS
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STATION: E08
EXP. NO: 4817
DATE: 26/03/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE E06   EXPERIMENT 4817

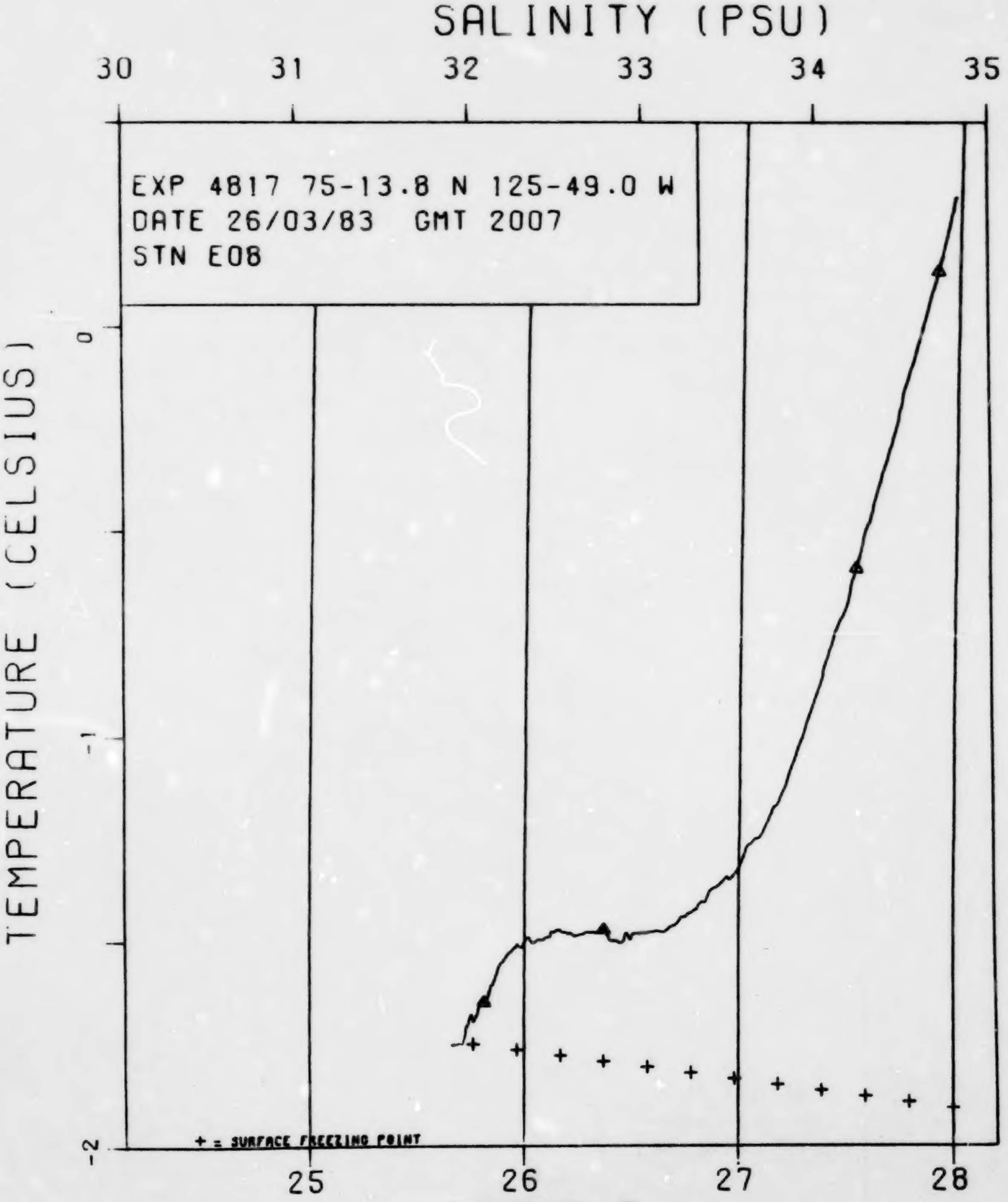
LAT.N. 75-13-47   LON.W. 125-49- 0   DATE 26/ 3/83   G.M.T. 2007

ICE THICKNESS 2.1 M   WATER DEPTH 397 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.753	.58966	31.883	25.646	.011	1436.8
5.0	-1.753	.58966	31.882	25.645	.012	1436.8
6.0	-1.753	.58966	31.882	25.645	.014	1436.9
7.0	-1.753	.58964	31.881	25.644	.016	1436.9
8.0	-1.753	.58989	31.895	25.656	.019	1436.9
9.0	-1.753	.58984	31.890	25.651	.021	1436.9
10.0	-1.753	.58955	31.873	25.637	.023	1436.9
11.0	-1.753	.58977	31.885	25.647	.026	1436.9
12.0	-1.753	.58979	31.886	25.648	.028	1437.0
13.0	-1.753	.58986	31.890	25.652	.030	1437.0
14.0	-1.753	.58992	31.893	25.654	.033	1437.0
15.0	-1.754	.58995	31.894	25.655	.035	1437.0
16.0	-1.753	.58997	31.894	25.655	.037	1437.0
17.0	-1.753	.58999	31.895	25.655	.040	1437.0
18.0	-1.753	.59002	31.896	25.656	.042	1437.1
19.0	-1.753	.59004	31.896	25.657	.044	1437.1
20.0	-1.753	.59009	31.898	25.658	.047	1437.1
21.0	-1.752	.59012	31.899	25.659	.049	1437.1
22.0	-1.752	.59014	31.900	25.659	.051	1437.1
23.0	-1.752	.59019	31.902	25.661	.054	1437.2
24.0	-1.752	.59021	31.903	25.662	.056	1437.2
25.0	-1.752	.59026	31.905	25.664	.058	1437.2
27.5	-1.751	.59039	31.910	25.667	.064	1437.3
30.0	-1.750	.59044	31.911	25.668	.070	1437.3
32.5	-1.750	.59049	31.912	25.669	.075	1437.3
35.0	-1.751	.59063	31.920	25.676	.081	1437.4
37.5	-1.752	.59084	31.932	25.686	.087	1437.4
40.0	-1.743	.59121	31.942	25.694	.093	1437.5
42.5	-1.707	.59220	31.961	25.706	.098	1437.8
45.0	-1.693	.59304	31.994	25.735	.104	1437.9
47.5	-1.676	.59385	32.022	25.758	.110	1438.1
50.0	-1.647	.59510	32.064	25.791	.115	1438.3
55.0	-1.577	.59767	32.137	25.848	.126	1438.8
60.0	-1.513	.60070	32.243	25.933	.137	1439.4
65.0	-1.504	.60251	32.337	26.010	.147	1439.6
70.0	-1.497	.60386	32.407	26.066	.156	1439.8
75.0	-1.480	.60517	32.463	26.111	.166	1440.1
80.0	-1.478	.60642	32.530	26.166	.175	1440.3
85.0	-1.487	.60729	32.589	26.213	.184	1440.4
90.0	-1.478	.60861	32.654	26.266	.193	1440.6
95.0	-1.481	.60938	32.700	26.303	.202	1440.7
100.0	-1.475	.61049	32.755	26.348	.210	1440.9
105.0	-1.501	.61120	32.822	26.403	.218	1441.0
110.0	-1.481	.61256	32.878	26.448	.226	1441.2

SITE E06 EXPERIMENT 4-17

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.482	.61352	32.933	26.492	.234	1441.4
120.0	-1.482	.61451	32.988	26.537	.241	1441.6
125.0	-1.476	.61568	33.048	26.586	.248	1441.8
130.0	-1.480	.61652	33.098	26.626	.256	1441.9
135.0	-1.457	.61821	33.170	26.684	.263	1442.2
140.0	-1.432	.62000	33.245	26.744	.269	1442.5
145.0	-1.406	.62170	33.312	26.796	.275	1442.8
150.0	-1.372	.62374	33.392	26.862	.281	1443.1
155.0	-1.351	.62573	33.483	26.936	.287	1443.4
160.0	-1.268	.62903	33.561	27.012	.292	1444.1
165.0	-1.225	.63163	33.682	27.093	.297	1444.5
170.0	-1.137	.63517	33.768	27.176	.302	1445.1
175.0	-1.017	.63935	33.894	27.257	.306	1445.9
180.0	-.937	.64206	33.960	27.306	.310	1446.5
185.0	-.841	.64518	34.030	27.361	.313	1447.1
190.0	-.744	.64834	34.101	27.415	.317	1447.7
195.0	-.693	.65051	34.166	27.465	.320	1448.1
200.0	-.591	.65357	34.225	27.508	.323	1448.9
210.0	-.457	.65798	34.322	27.581	.328	1449.7
220.0	-.332	.66201	34.407	27.644	.333	1450.6
230.0	-.244	.66494	34.469	27.690	.337	1451.2
240.0	-.161	.66745	34.512	27.721	.341	1451.8
250.0	-.101	.66954	34.558	27.755	.344	1452.3
260.0	-.043	.67152	34.599	27.785	.347	1452.8
270.0	.012	.67338	34.638	27.813	.350	1453.3
280.0	.060	.67499	34.668	27.835	.353	1453.7
290.0	.098	.67636	34.697	27.857	.355	1454.1
300.0	.135	.67766	34.723	27.875	.357	1454.4
310.0	.174	.67897	34.747	27.892	.360	1454.8
320.0	.201	.67988	34.762	27.903	.362	1455.1
330.0	.232	.68095	34.781	27.917	.363	1455.5
340.0	.258	.68183	34.795	27.927	.365	1455.8
350.0	.290	.68288	34.813	27.939	.367	1456.1
360.0	.311	.68358	34.822	27.945	.368	1456.4
370.0	.315	.68378	34.824	27.946	.370	1456.6
380.0	.315	.68392	34.824	27.947	.372	1456.7
390.0	.316	.68403	34.824	27.947	.373	1456.9
398.4	.316	.68424	34.831	27.952	.374	1457.0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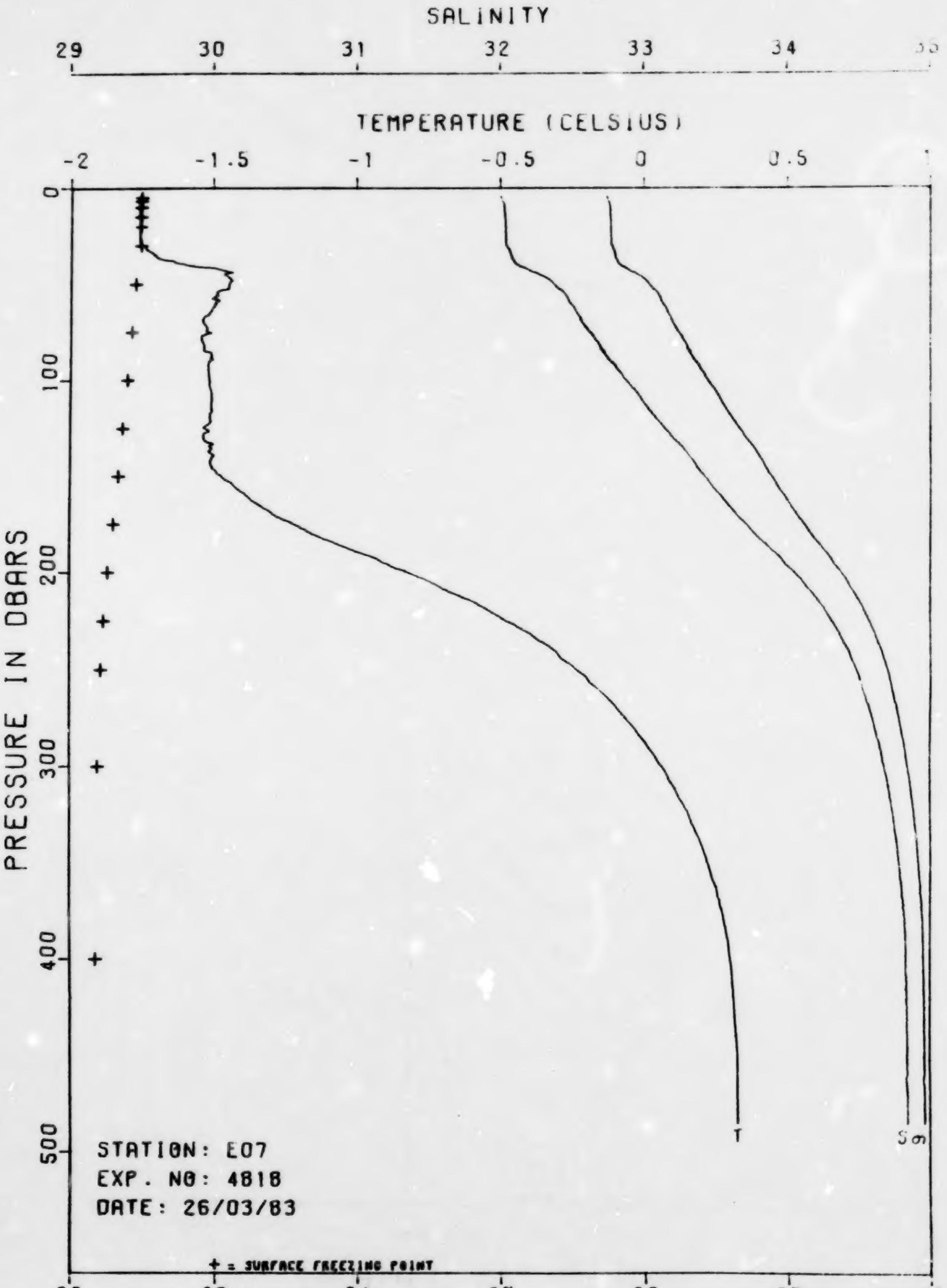
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TEMPERATURE (CELSIUS)
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STATION: E07
EXP. NO: 4818
DATE: 26/03/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE E07   EXPERIMENT 4818

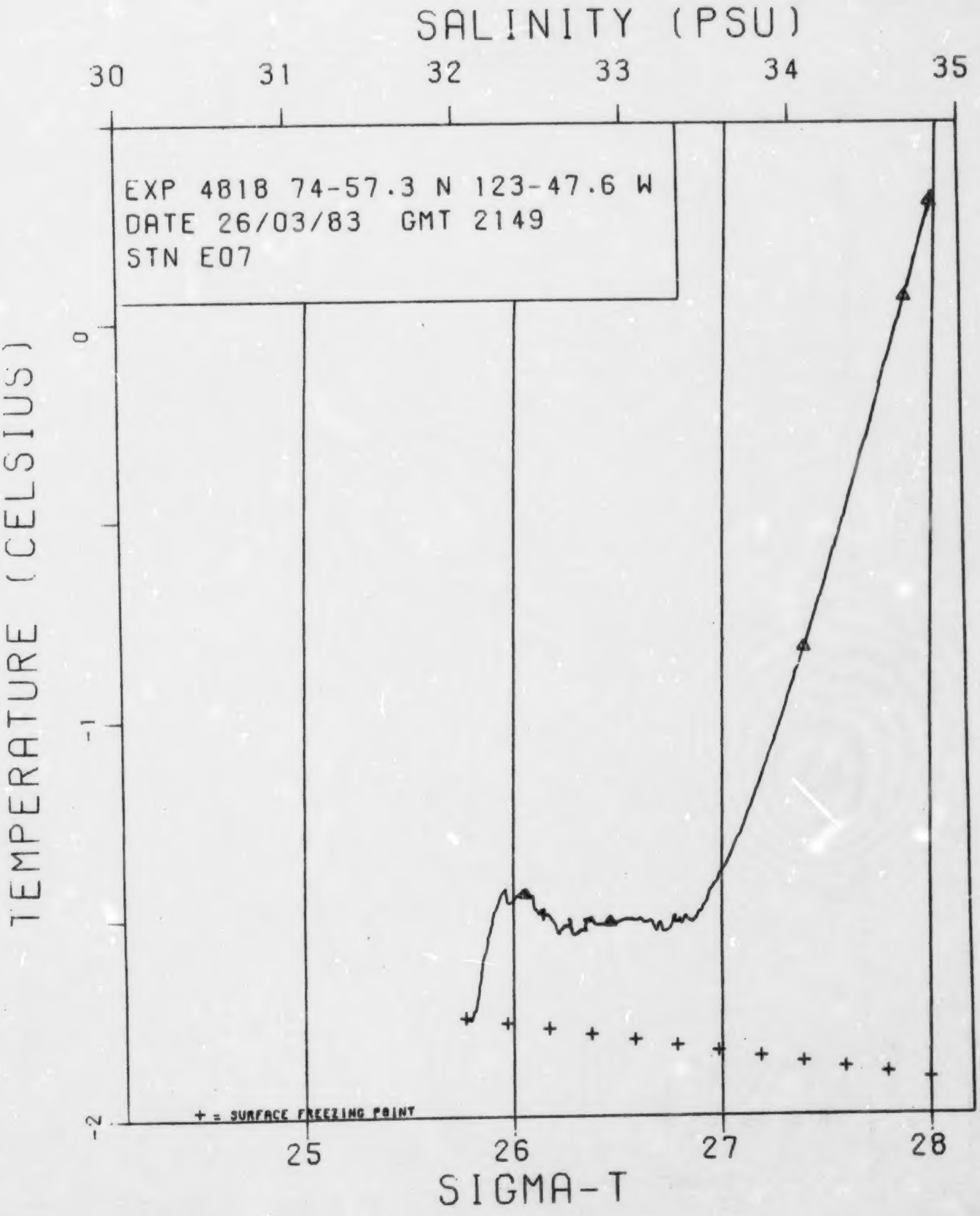
LAT.N. 74-57-18   LON.W. 123-47-35   DATE 26/ 3/83   G.M.T. 2149

ICE THICKNESS   1.7 M   WATER DEPTH   484   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.5	-1.757	.59162	32.003	25.743	.010	1437.0
5.0	-1.757	.59164	32.004	25.745	.011	1437.0
6.0	-1.757	.59177	32.011	25.750	.013	1437.0
7.0	-1.757	.59183	32.015	25.753	.016	1437.0
8.0	-1.757	.59202	32.025	25.762	.018	1437.1
9.0	-1.758	.59209	32.030	25.765	.020	1437.1
10.0	-1.758	.59212	32.031	25.766	.022	1437.1
11.0	-1.758	.59214	32.031	25.767	.025	1437.1
12.0	-1.758	.59216	32.032	25.767	.027	1437.1
13.0	-1.758	.59217	32.032	25.767	.029	1437.2
14.0	-1.758	.59219	32.033	25.768	.031	1437.2
15.0	-1.758	.59219	32.033	25.767	.033	1437.2
16.0	-1.758	.59223	32.034	25.768	.036	1437.2
17.0	-1.758	.59229	32.037	25.771	.038	1437.2
18.0	-1.758	.59230	32.037	25.771	.040	1437.2
19.0	-1.756	.59235	32.037	25.771	.042	1437.3
20.0	-1.756	.59233	32.037	25.771	.045	1437.3
21.0	-1.756	.59236	32.037	25.771	.047	1437.3
22.0	-1.757	.59238	32.038	25.772	.049	1437.3
23.0	-1.757	.59239	32.038	25.772	.051	1437.3
24.0	-1.757	.59241	32.038	25.772	.053	1437.3
25.0	-1.757	.59242	32.038	25.772	.056	1437.4
27.5	-1.756	.59248	32.039	25.773	.061	1437.4
30.0	-1.754	.59255	32.040	25.773	.067	1437.5
32.5	-1.730	.59344	32.065	25.794	.072	1437.6
35.0	-1.706	.59407	32.075	25.801	.078	1437.8
37.5	-1.675	.59483	32.085	25.808	.083	1438.0
40.0	-1.598	.59673	32.113	25.830	.088	1438.5
42.5	-1.480	.60017	32.167	25.887	.094	1439.2
45.0	-1.465	.60179	32.265	25.950	.099	1439.4
47.5	-1.440	.60333	32.327	25.999	.104	1439.6
50.0	-1.445	.60401	32.370	26.035	.109	1439.7
55.0	-1.493	.60448	32.447	26.098	.119	1439.7
60.0	-1.494	.60514	32.484	26.129	.128	1439.8
65.0	-1.511	.60567	32.531	26.167	.137	1439.9
70.0	-1.536	.60586	32.568	26.197	.146	1439.9
75.0	-1.525	.60707	32.624	26.243	.155	1440.1
80.0	-1.539	.60770	32.673	26.283	.164	1440.2
85.0	-1.534	.60849	32.711	26.314	.172	1440.3
90.0	-1.512	.61003	32.774	26.365	.181	1440.6
95.0	-1.517	.61078	32.821	26.403	.189	1440.7
100.0	-1.514	.61173	32.872	26.444	.197	1440.9
105.0	-1.509	.61293	32.934	26.494	.205	1441.1
110.0	-1.505	.61389	32.963	26.534	.212	1441.3

SITE E07 EXPERIMENT 4616

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.508	.61466	33.029	26.571	.219	1441.4
120.0	-1.514	.61556	33.085	26.617	.227	1441.5
125.0	-1.536	.61618	33.143	26.665	.233	1441.6
130.0	-1.536	.61719	33.200	26.711	.240	1441.8
135.0	-1.513	.61880	33.267	26.765	.247	1442.1
140.0	-1.501	.62001	33.321	26.808	.253	1442.3
145.0	-1.506	.62070	33.366	26.845	.259	1442.4
150.0	-1.470	.62241	33.424	26.891	.265	1442.7
155.0	-1.427	.62410	33.472	26.929	.270	1443.1
160.0	-1.385	.62592	33.529	26.974	.276	1443.4
165.0	-1.340	.62780	33.586	27.019	.281	1443.8
170.0	-1.290	.62976	33.643	27.063	.286	1444.2
175.0	-1.221	.63225	33.708	27.114	.291	1444.7
180.0	-1.155	.63457	33.767	27.159	.295	1445.2
185.0	-1.072	.63738	33.836	27.212	.299	1445.7
190.0	-.988	.64030	33.908	27.266	.304	1446.3
195.0	-.908	.64303	33.974	27.318	.307	1446.9
200.0	-.823	.64587	34.040	27.368	.311	1447.4
210.0	-.680	.65076	34.156	27.457	.317	1448.4
220.0	-.536	.65546	34.261	27.535	.323	1449.4
230.0	-.418	.65934	34.344	27.597	.328	1450.2
240.0	-.316	.66273	34.417	27.652	.333	1451.0
250.0	-.238	.66537	34.474	27.694	.337	1451.6
260.0	-.162	.66780	34.522	27.729	.340	1452.2
270.0	-.095	.67001	34.566	27.761	.344	1452.7
280.0	-.037	.67196	34.606	27.790	.347	1453.2
290.0	.013	.67376	34.645	27.819	.350	1453.6
300.0	.060	.67529	34.673	27.839	.352	1454.0
310.0	.099	.67669	34.703	27.861	.355	1454.4
320.0	.136	.67794	34.725	27.877	.357	1454.8
330.0	.164	.67892	34.743	27.890	.359	1455.1
340.0	.196	.68002	34.763	27.904	.361	1455.4
350.0	.219	.68083	34.778	27.915	.363	1455.7
360.0	.239	.68160	34.792	27.925	.365	1456.0
370.0	.261	.68248	34.810	27.939	.366	1456.3
380.0	.276	.68308	34.822	27.947	.368	1456.5
390.0	.289	.68352	34.826	27.950	.370	1456.8
400.0	.297	.68387	34.831	27.953	.371	1457.0
425.0	.310	.68446	34.834	27.955	.375	1457.5
450.0	.321	.68515	34.846	27.964	.378	1457.9
475.0	.323	.68540	34.843	27.961	.382	1458.3
485.5	.324	.68558	34.846	27.964	.383	1458.5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DATE 26/03/83 GMT 2149
STN E07
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+ = SURFACE FREEZING POINT
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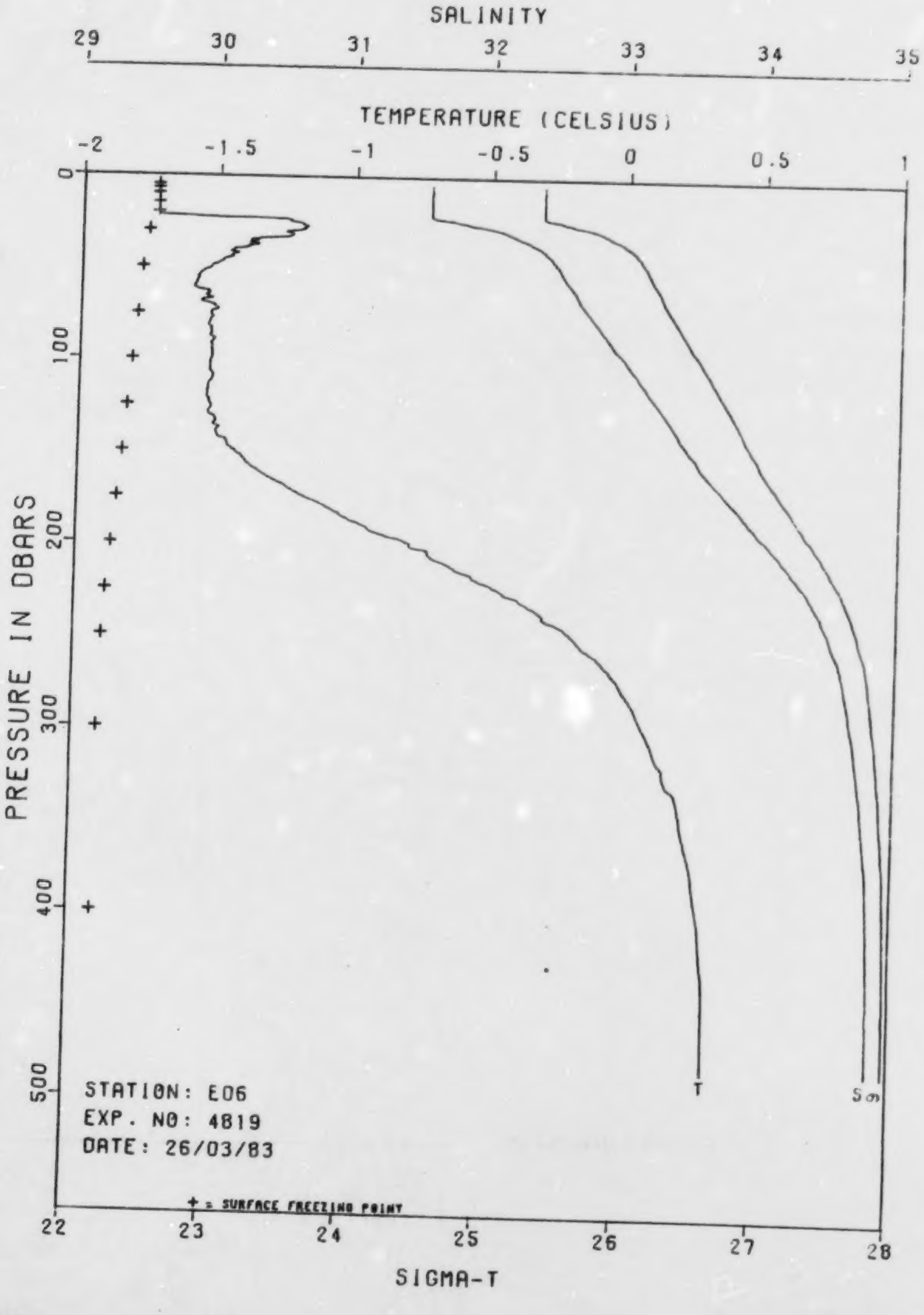
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: E06
EXP. NO: 4819
DATE: 26/03/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE E06   EXPERIMENT 4819

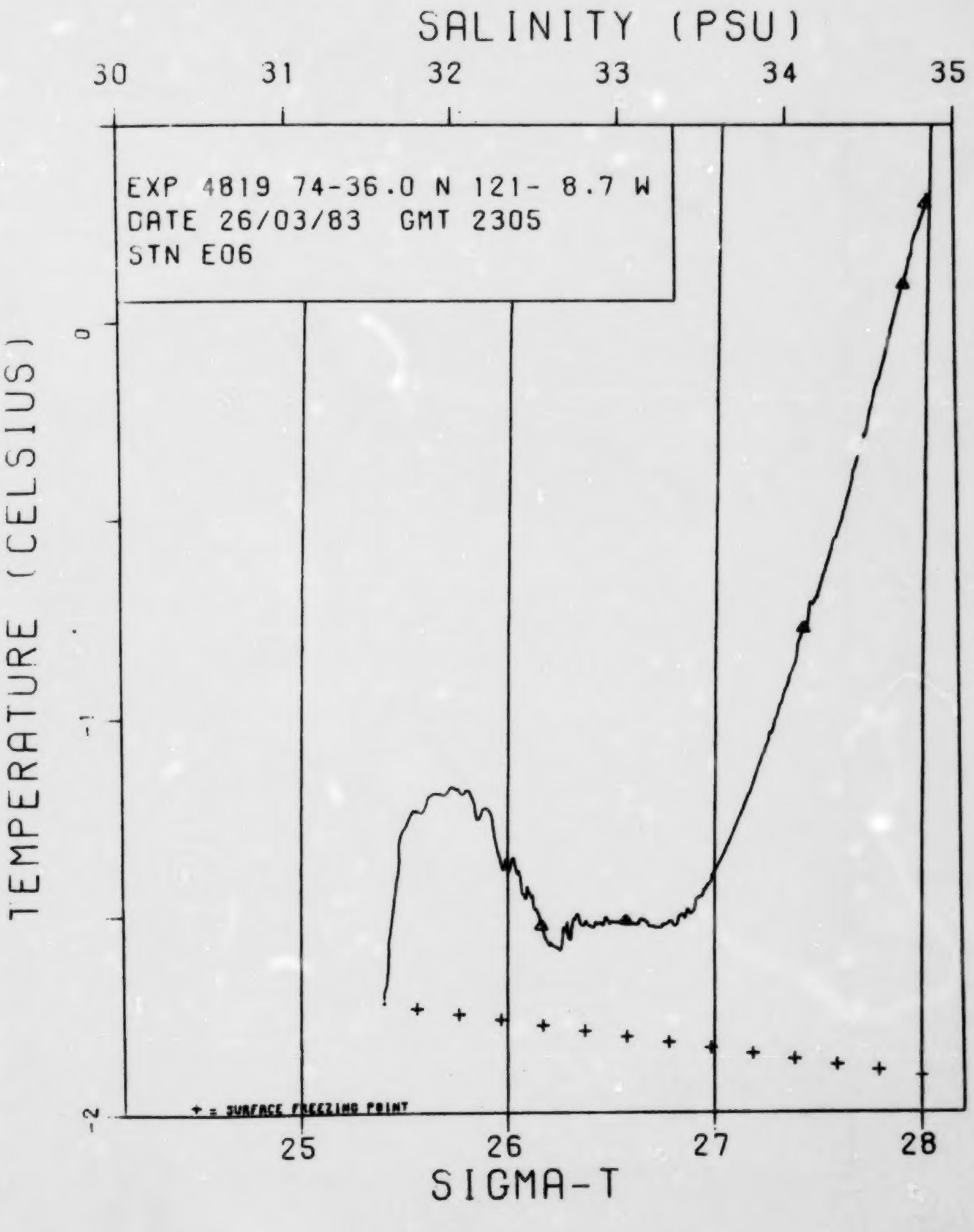
LAT.N. 74-36- 0   LON.W. 121- 8-42   DATE 26/ 3/83   G.M.T. 2305

ICE THICKNESS   1.9 M   WATER DEPTH   478 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.723	.58461	31.551	25.375	.012	1436.5
5.0	-1.724	.58461	31.552	25.377	.013	1436.5
6.0	-1.724	.58461	31.550	25.375	.016	1436.5
7.0	-1.724	.58458	31.548	25.373	.018	1436.5
8.0	-1.723	.58461	31.549	25.374	.021	1436.6
9.0	-1.723	.58476	31.557	25.381	.023	1436.6
10.0	-1.723	.58473	31.555	25.379	.026	1436.6
11.0	-1.725	.58462	31.550	25.375	.028	1436.6
12.0	-1.724	.58466	31.550	25.375	.031	1436.6
13.0	-1.725	.58465	31.550	25.375	.034	1436.6
14.0	-1.723	.58468	31.550	25.375	.036	1436.7
15.0	-1.725	.58468	31.550	25.375	.039	1436.7
16.0	-1.726	.58468	31.551	25.375	.041	1436.7
17.0	-1.725	.58470	31.551	25.376	.044	1436.7
18.0	-1.724	.58471	31.550	25.375	.047	1436.7
19.0	-1.724	.58472	31.550	25.375	.049	1436.7
20.0	-1.725	.58473	31.551	25.376	.052	1436.7
21.0	-1.725	.58475	31.551	25.375	.054	1436.8
22.0	-1.724	.58480	31.552	25.376	.057	1436.8
23.0	-1.370	.59282	31.648	25.447	.060	1438.6
24.0	-1.235	.59679	31.737	25.515	.062	1439.4
25.0	-1.235	.59784	31.799	25.566	.064	1439.5
27.5	-1.181	.60217	31.992	25.721	.070	1440.1
30.0	-1.239	.60309	32.107	25.816	.076	1440.0
32.5	-1.233	.60453	32.182	25.877	.081	1440.2
35.0	-1.389	.60317	32.270	25.952	.086	1439.6
37.5	-1.354	.60491	32.333	26.002	.091	1439.9
40.0	-1.447	.60409	32.384	26.046	.096	1439.6
42.5	-1.436	.60486	32.416	26.072	.101	1439.7
45.0	-1.471	.60474	32.446	26.097	.106	1439.6
47.5	-1.496	.60480	32.475	26.121	.111	1439.6
50.0	-1.531	.60460	32.499	26.141	.115	1439.5
55.0	-1.576	.60448	32.538	26.174	.125	1439.4
60.0	-1.585	.60528	32.592	26.218	.134	1439.5
65.0	-1.537	.60693	32.634	26.251	.142	1439.9
70.0	-1.529	.60786	32.677	26.286	.151	1440.1
75.0	-1.527	.60889	32.733	26.331	.160	1440.3
80.0	-1.531	.60977	32.786	26.375	.168	1440.4
85.0	-1.523	.61088	32.840	26.418	.176	1440.6
90.0	-1.514	.61188	32.887	26.456	.184	1440.8
95.0	-1.520	.61282	32.946	26.504	.192	1440.9
100.0	-1.519	.61380	32.999	26.547	.199	1441.1
105.0	-1.524	.61469	33.055	26.593	.206	1441.2
110.0	-1.515	.61569	33.100	26.629	.213	1441.4

SITE EC6   EXPERIMENT 4619

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.532	.61628	33.151	26.671	.220	1441.5
120.0	-1.533	.61720	33.203	26.713	.227	1441.6
125.0	-1.519	.61839	33.256	26.756	.233	1441.8
130.0	-1.525	.61911	33.302	26.793	.239	1442.0
135.0	-1.509	.62023	33.347	26.830	.246	1442.2
140.0	-1.499	.62113	33.386	26.861	.252	1442.4
145.0	-1.454	.62288	33.436	26.901	.257	1442.7
150.0	-1.424	.62443	33.491	26.944	.263	1443.0
155.0	-1.388	.62587	33.532	26.976	.268	1443.3
160.0	-1.344	.62769	33.588	27.020	.273	1443.7
165.0	-1.287	.62987	33.649	27.068	.278	1444.1
170.0	-1.224	.63219	33.711	27.116	.283	1444.6
175.0	-1.158	.63457	33.774	27.165	.288	1445.1
180.0	-1.084	.63717	33.840	27.216	.292	1445.6
185.0	-1.023	.63934	33.895	27.259	.296	1446.1
190.0	-.942	.64200	33.956	27.305	.300	1446.6
195.0	-.867	.64470	34.025	27.358	.304	1447.1
200.0	-.776	.64750	34.082	27.401	.307	1447.7
210.0	-.639	.65234	34.203	27.493	.313	1448.7
220.0	-.506	.65696	34.314	27.577	.319	1449.6
230.0	-.372	.66108	34.392	27.634	.323	1450.5
240.0	-.276	.66441	34.468	27.691	.327	1451.2
250.0	-.170	.66755	34.522	27.729	.331	1452.0
260.0	-.086	.67041	34.584	27.775	.334	1452.6
270.0	-.025	.67227	34.616	27.798	.337	1453.1
280.0	.022	.67381	34.644	27.818	.340	1453.5
290.0	.060	.67512	34.669	27.836	.343	1453.9
300.0	.094	.67638	34.696	27.856	.345	1454.2
310.0	.123	.67742	34.716	27.870	.348	1454.5
320.0	.162	.67858	34.733	27.882	.350	1454.9
330.0	.188	.67951	34.750	27.894	.352	1455.2
340.0	.219	.68055	34.767	27.906	.354	1455.5
350.0	.229	.68107	34.779	27.915	.356	1455.8
360.0	.246	.68178	34.795	27.927	.357	1456.0
370.0	.264	.68246	34.807	27.936	.359	1456.3
380.0	.276	.68303	34.819	27.945	.361	1456.5
390.0	.285	.68344	34.826	27.950	.362	1456.8
400.0	.297	.68388	34.831	27.953	.364	1457.0
425.0	.313	.68463	34.841	27.960	.367	1457.5
450.0	.322	.68501	34.838	27.957	.371	1457.9
475.0	.323	.68540	34.843	27.961	.374	1458.7
483.6	.324	.68552	34.843	27.962	.375	1458.5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EXP 4819 74-36.0 N 121- 8.7 W
DATE 26/03/83 GMT 2305
STN E06
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+ = SURFACE FREEZING POINT
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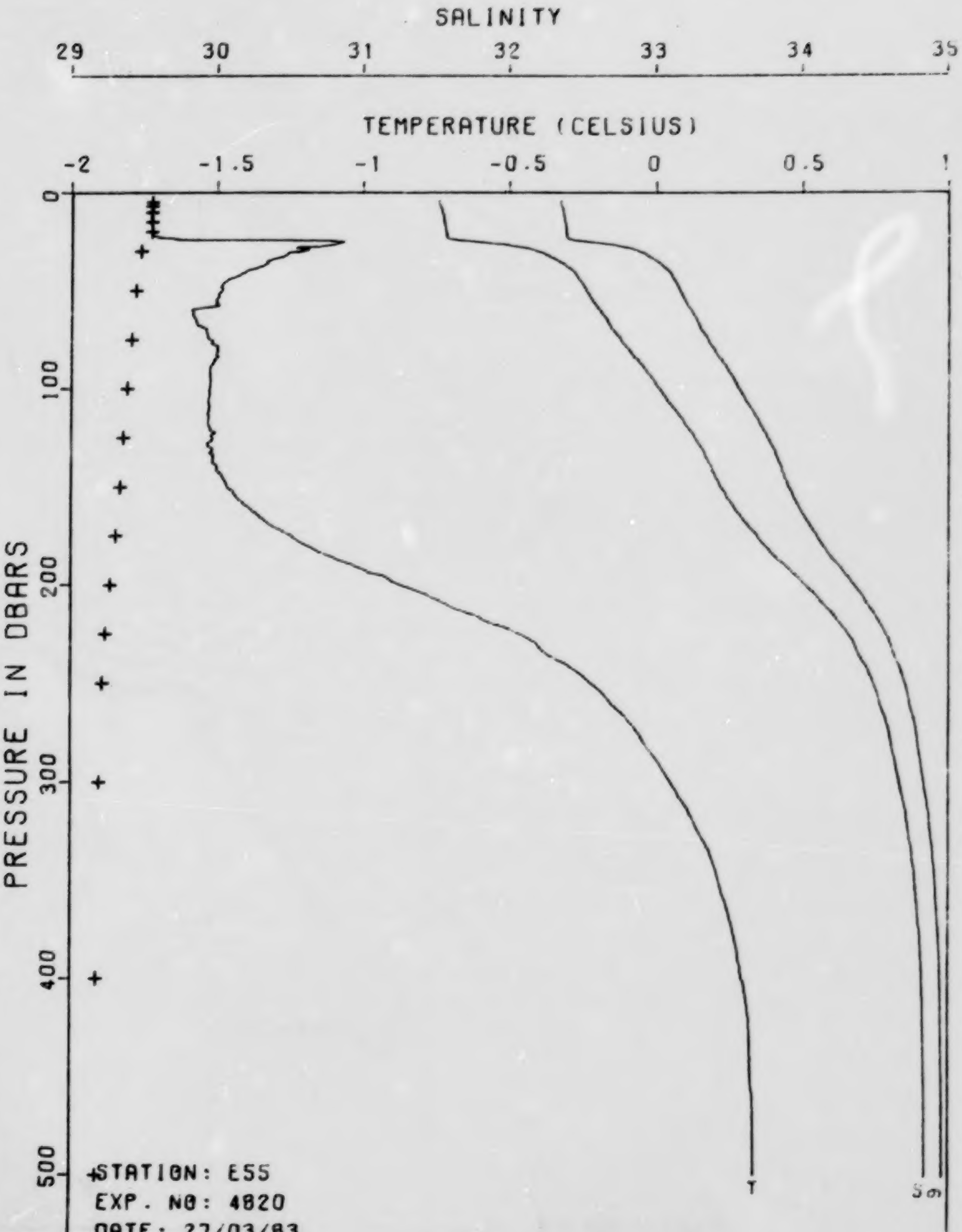
SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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+STATION: E55
EXP. NO: 4820
DATE: 27/03/83
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CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE E55 EXPERIMENT 4820

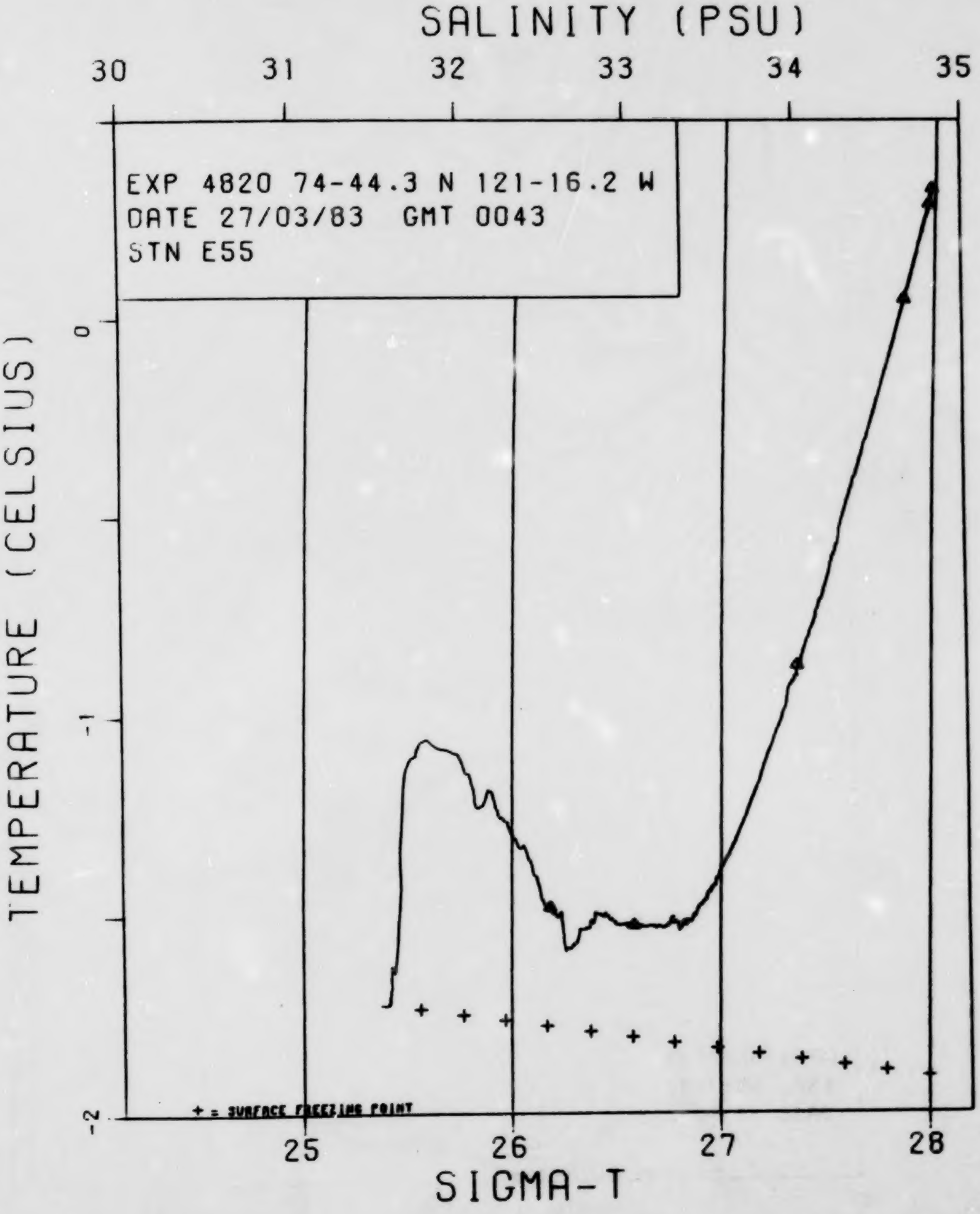
LAT.N. 74-44-18 LON.W. 121-16-12 DATE 27/ 3/83 G.M.T. 43

ICE THICKNESS 1.9 M WATER DEPTH 499 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.727	.58398	31.518	25.349	.012	1436.4
5.0	-1.727	.58398	31.517	25.348	.013	1436.4
6.0	-1.727	.58396	31.516	25.347	.016	1436.5
7.0	-1.727	.58414	31.526	25.355	.018	1436.5
8.0	-1.728	.58436	31.539	25.366	.021	1436.5
9.0	-1.728	.58440	31.541	25.368	.024	1436.5
10.0	-1.728	.58443	31.542	25.368	.026	1436.6
11.0	-1.729	.58446	31.545	25.370	.029	1436.6
12.0	-1.728	.58452	31.547	25.372	.031	1436.6
13.0	-1.728	.58463	31.552	25.377	.034	1436.6
14.0	-1.729	.58465	31.554	25.378	.036	1436.6
15.0	-1.728	.58467	31.554	25.378	.039	1436.7
16.0	-1.727	.58478	31.558	25.381	.042	1436.7
17.0	-1.726	.58484	31.560	25.383	.044	1436.7
18.0	-1.722	.58491	31.559	25.382	.047	1436.7
19.0	-1.723	.58494	31.562	25.384	.049	1436.8
20.0	-1.725	.58493	31.563	25.385	.052	1436.8
21.0	-1.722	.58498	31.563	25.385	.055	1436.8
22.0	-1.719	.58512	31.566	25.388	.057	1436.8
23.0	-1.703	.58552	31.572	25.392	.060	1436.9
24.0	-1.648	.58687	31.593	25.408	.062	1437.2
25.0	-1.096	.59931	31.736	25.511	.065	1440.1
27.5	-1.147	.60349	32.033	25.753	.071	1440.3
30.0	-1.198	.60508	32.179	25.873	.076	1440.3
32.5	-1.268	.60534	32.267	25.947	.081	1440.1
35.0	-1.326	.60544	32.335	26.003	.086	1440.0
37.5	-1.343	.60598	32.384	26.043	.091	1440.0
40.0	-1.402	.60567	32.428	26.081	.096	1439.8
42.5	-1.425	.60579	32.458	26.105	.101	1439.8
45.0	-1.466	.60543	32.481	26.125	.105	1439.7
47.5	-1.483	.60552	32.503	26.144	.110	1439.7
50.0	-1.482	.60589	32.522	26.159	.115	1439.8
55.0	-1.506	.60616	32.561	26.191	.124	1439.8
60.0	-1.593	.60546	32.612	26.235	.133	1439.5
65.0	-1.573	.60677	32.665	26.277	.142	1439.8
70.0	-1.537	.60807	32.700	26.304	.150	1440.1
75.0	-1.528	.60929	32.758	26.352	.159	1440.3
80.0	-1.498	.61081	32.812	26.395	.167	1440.6
85.0	-1.505	.61166	32.867	26.439	.175	1440.7
90.0	-1.525	.61227	32.922	26.485	.182	1440.8
95.0	-1.524	.61320	32.972	26.525	.190	1440.9
100.0	-1.528	.61396	33.019	26.563	.197	1441.1
105.0	-1.532	.61479	33.069	26.604	.205	1441.2
110.0	-1.529	.61571	33.118	26.644	.212	1441.4

SITE E55 EXPERIMENT 4820

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.530	.61660	33.168	26.695	.218	1441.5
120.0	-1.529	.61748	33.215	26.723	.225	1441.7
125.0	-1.517	.61847	33.258	26.757	.231	1441.9
130.0	-1.525	.61912	33.302	26.794	.238	1442.0
135.0	-1.515	.61983	33.330	26.816	.244	1442.1
140.0	-1.500	.62088	33.373	26.850	.250	1442.3
145.0	-1.481	.62168	33.396	26.868	.256	1442.5
150.0	-1.466	.62266	33.433	26.898	.261	1442.8
155.0	-1.435	.62406	33.478	26.934	.267	1443.0
160.0	-1.396	.62563	33.524	26.970	.272	1443.4
165.0	-1.354	.62732	33.574	27.009	.278	1443.7
170.0	-1.310	.62901	33.621	27.046	.283	1444.1
175.0	-1.246	.63138	33.685	27.096	.287	1444.6
180.0	-1.193	.63330	33.735	27.135	.292	1445.0
185.0	-1.123	.63571	33.794	27.180	.297	1445.4
190.0	-1.034	.63885	33.875	27.243	.301	1446.1
195.0	-.941	.64179	33.939	27.291	.305	1446.7
200.0	-.876	.64432	34.010	27.346	.308	1447.1
210.0	-.716	.64967	34.135	27.441	.315	1448.2
220.0	-.554	.65497	34.251	27.528	.321	1449.3
230.0	-.406	.65960	34.345	27.597	.326	1450.3
240.0	-.311	.66281	34.416	27.651	.330	1451.0
250.0	-.224	.66573	34.479	27.697	.334	1451.6
260.0	-.156	.66798	34.525	27.731	.338	1452.2
270.0	-.091	.67017	34.570	27.764	.341	1452.7
280.0	-.043	.67183	34.605	27.789	.345	1453.1
290.0	.006	.67346	34.636	27.812	.347	1453.6
300.0	.046	.67484	34.663	27.832	.350	1454.0
310.0	.089	.67631	34.693	27.853	.353	1454.4
320.0	.124	.67752	34.715	27.870	.355	1454.7
330.0	.159	.67871	34.737	27.885	.357	1455.1
340.0	.189	.67976	34.756	27.899	.359	1455.4
350.0	.209	.68049	34.769	27.908	.361	1455.7
360.0	.229	.68122	34.782	27.918	.363	1455.9
370.0	.247	.68189	34.794	27.926	.365	1456.2
380.0	.264	.68256	34.806	27.935	.366	1456.5
390.0	.276	.68306	34.815	27.942	.368	1456.7
400.0	.286	.68344	34.819	27.945	.369	1456.9
425.0	.312	.68442	34.830	27.952	.373	1457.5
450.0	.316	.68483	34.833	27.954	.377	1457.9
475.0	.323	.68533	34.839	27.959	.380	1458.3
500.0	.325	.68564	34.839	27.959	.384	1458.9
500.6	.324	.68560	34.837	27.957	.384	1458.8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EXP 4820 74-44.3 N 121-16.2 W
DATE 27/03/83 GMT 0043
STN E55
TEMPERATURE (CELSIUS)
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+ = SURFACE FREEZING POINT
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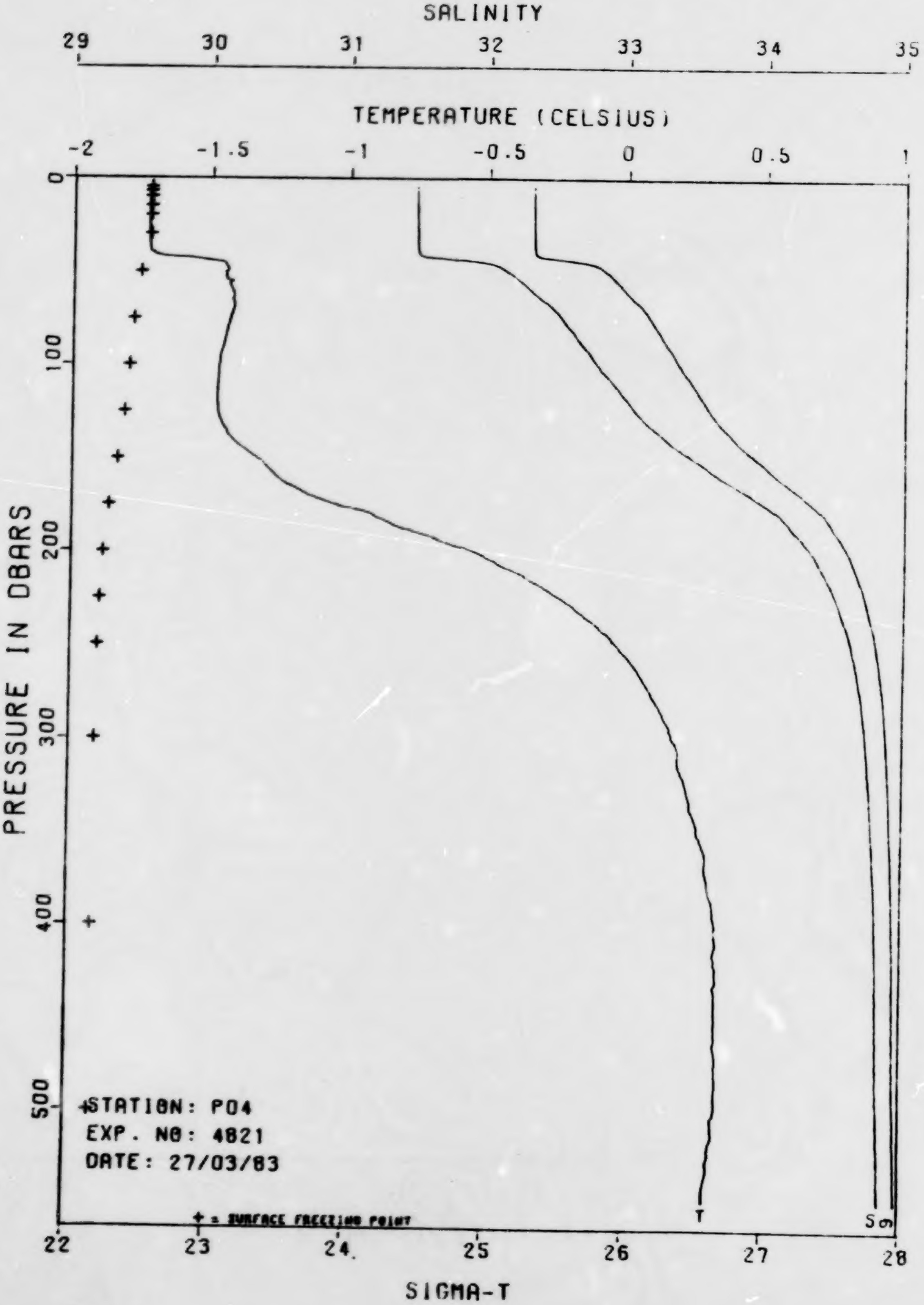
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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PRESSURE IN DBARS
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100
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500
STATION: P04
EXP. NO: 4821
DATE: 27/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE P04 EXPERIMENT 4821

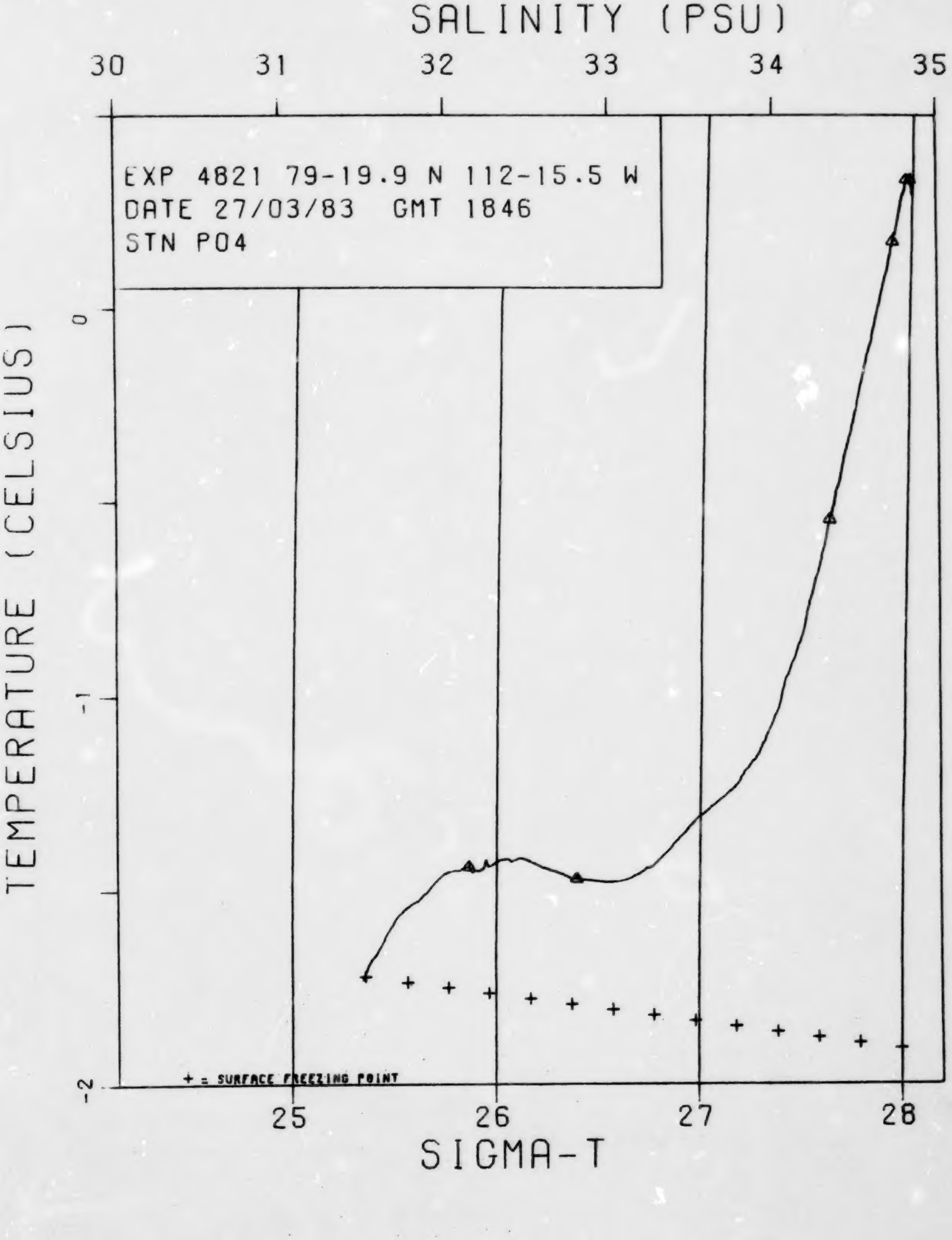
LAT.N. 79-19-54 LON.W. 112-15-30 DATE 27/ 3/83 G.M.T. 1846

ICE THICKNESS 2.0 M WATER DEPTH 546 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.731	.58328	31.480	25.318	.012	1436.4
5.0	-1.730	.58328	31.479	25.317	.013	1436.4
6.0	-1.730	.58328	31.479	25.317	.016	1436.4
7.0	-1.730	.58329	31.479	25.317	.019	1436.4
8.0	-1.730	.58332	31.480	25.318	.021	1436.4
9.0	-1.728	.58335	31.479	25.317	.024	1436.5
10.0	-1.729	.58336	31.480	25.318	.026	1436.5
11.0	-1.729	.58338	31.481	25.319	.029	1436.5
12.0	-1.729	.58337	31.479	25.317	.032	1436.5
13.0	-1.728	.58340	31.480	25.318	.034	1436.5
14.0	-1.729	.58341	31.480	25.318	.037	1436.5
15.0	-1.729	.58342	31.481	25.318	.040	1436.5
16.0	-1.729	.58344	31.481	25.319	.042	1436.6
17.0	-1.728	.58346	31.481	25.319	.045	1436.6
18.0	-1.728	.58350	31.482	25.319	.048	1436.6
19.0	-1.728	.58350	31.482	25.320	.050	1436.6
20.0	-1.727	.58352	31.481	25.319	.053	1436.6
21.0	-1.728	.58353	31.482	25.320	.056	1436.7
22.0	-1.728	.58354	31.482	25.319	.058	1436.7
23.0	-1.729	.58355	31.484	25.321	.061	1436.7
24.0	-1.729	.58355	31.483	25.320	.063	1436.7
25.0	-1.730	.58356	31.483	25.321	.066	1436.7
27.5	-1.730	.58360	31.484	25.321	.073	1436.8
30.0	-1.729	.58365	31.485	25.322	.079	1436.8
32.5	-1.729	.58368	31.485	25.322	.086	1436.8
35.0	-1.728	.58374	31.487	25.323	.092	1436.9
37.5	-1.727	.58382	31.489	25.325	.099	1436.9
40.0	-1.720	.58404	31.493	25.328	.106	1437.0
42.5	-1.612	.58832	31.629	25.437	.112	1437.8
45.0	-1.465	.59655	31.956	25.699	.118	1439.0
47.5	-1.446	.59903	32.080	25.799	.124	1439.3
50.0	-1.441	.60005	32.133	25.842	.129	1439.4
55.0	-1.437	.60167	32.222	25.914	.140	1439.6
60.0	-1.427	.60331	32.303	25.980	.150	1439.9
65.0	-1.425	.60472	32.381	26.043	.160	1440.1
70.0	-1.420	.60633	32.469	26.114	.169	1440.3
75.0	-1.432	.60715	32.526	26.161	.179	1440.4
80.0	-1.442	.60790	32.579	26.204	.188	1440.5
85.0	-1.449	.60869	32.630	26.246	.197	1440.6
90.0	-1.456	.60949	32.682	26.288	.205	1440.8
95.0	-1.467	.61029	32.737	26.333	.214	1440.9
100.0	-1.471	.61108	32.785	26.373	.222	1441.0
105.0	-1.474	.61203	32.842	26.418	.230	1441.1
110.0	-1.476	.61305	32.901	26.467	.238	1441.3

SITE PP4 EXPERIMENT 4621

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.478	.61392	32.952	26.508	.246	1441.4
120.0	-1.476	.61502	33.012	26.556	.253	1441.6
125.0	-1.474	.61596	33.062	26.597	.260	1441.8
130.0	-1.465	.61723	33.124	26.647	.267	1442.0
135.0	-1.443	.61911	33.207	26.714	.274	1442.3
140.0	-1.422	.62085	33.283	26.775	.280	1442.6
145.0	-1.377	.62333	33.376	26.849	.286	1443.0
150.0	-1.331	.62596	33.477	26.930	.292	1443.5
155.0	-1.293	.62846	33.578	27.011	.297	1443.9
160.0	-1.260	.63076	33.673	27.087	.302	1444.2
165.0	-1.204	.63385	33.789	27.179	.307	1444.7
170.0	-1.139	.63704	33.900	27.267	.311	1445.3
175.0	-1.037	.64089	34.006	27.349	.315	1446.0
180.0	-.909	.64511	34.105	27.425	.318	1446.8
185.0	-.840	.64755	34.166	27.472	.321	1447.3
190.0	-.741	.65049	34.222	27.512	.324	1447.9
195.0	-.647	.65339	34.261	27.556	.327	1448.5
200.0	-.542	.65641	34.334	27.595	.329	1449.2
210.0	-.408	.66050	34.411	27.651	.334	1450.0
220.0	-.286	.66423	34.482	27.702	.338	1450.9
230.0	-.184	.66732	34.536	27.741	.341	1451.6
240.0	-.095	.67005	34.586	27.777	.345	1452.2
250.0	-.028	.67214	34.623	27.804	.348	1452.7
260.0	.031	.67397	34.655	27.826	.350	1453.2
270.0	.073	.67532	34.679	27.843	.353	1453.6
280.0	.113	.67668	34.704	27.861	.355	1454.0
290.0	.149	.67776	34.719	27.871	.358	1454.3
300.0	.174	.67862	34.733	27.881	.360	1454.6
310.0	.190	.67925	34.744	27.889	.362	1454.9
320.0	.213	.68000	34.755	27.897	.364	1455.2
330.0	.231	.68063	34.764	27.903	.366	1455.4
340.0	.248	.68123	34.773	27.909	.368	1455.7
350.0	.263	.68176	34.781	27.915	.370	1455.9
360.0	.293	.68269	34.792	27.922	.371	1456.2
370.0	.293	.68291	34.799	27.927	.373	1456.4
380.0	.308	.68346	34.807	27.933	.375	1456.7
390.0	.323	.68395	34.812	27.936	.376	1456.9
400.0	.333	.68431	34.815	27.939	.378	1457.1
425.0	.332	.68472	34.824	27.946	.382	1457.5
450.0	.333	.68509	34.830	27.950	.386	1458.0
475.0	.334	.68540	34.831	27.951	.390	1458.4
500.0	.331	.68580	34.841	27.960	.393	1458.8
525.0	.309	.68573	34.848	27.966	.397	1459.1
547.6	.294	.68581	34.856	27.974	.400	1459.4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EXP 4821 79-19.9 N 112-15.5 W
DATE 27/03/83 GMT 1846
STN P04
TEMPERATURE (CELSIUS)
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+ = SURFACE FREEZING POINT
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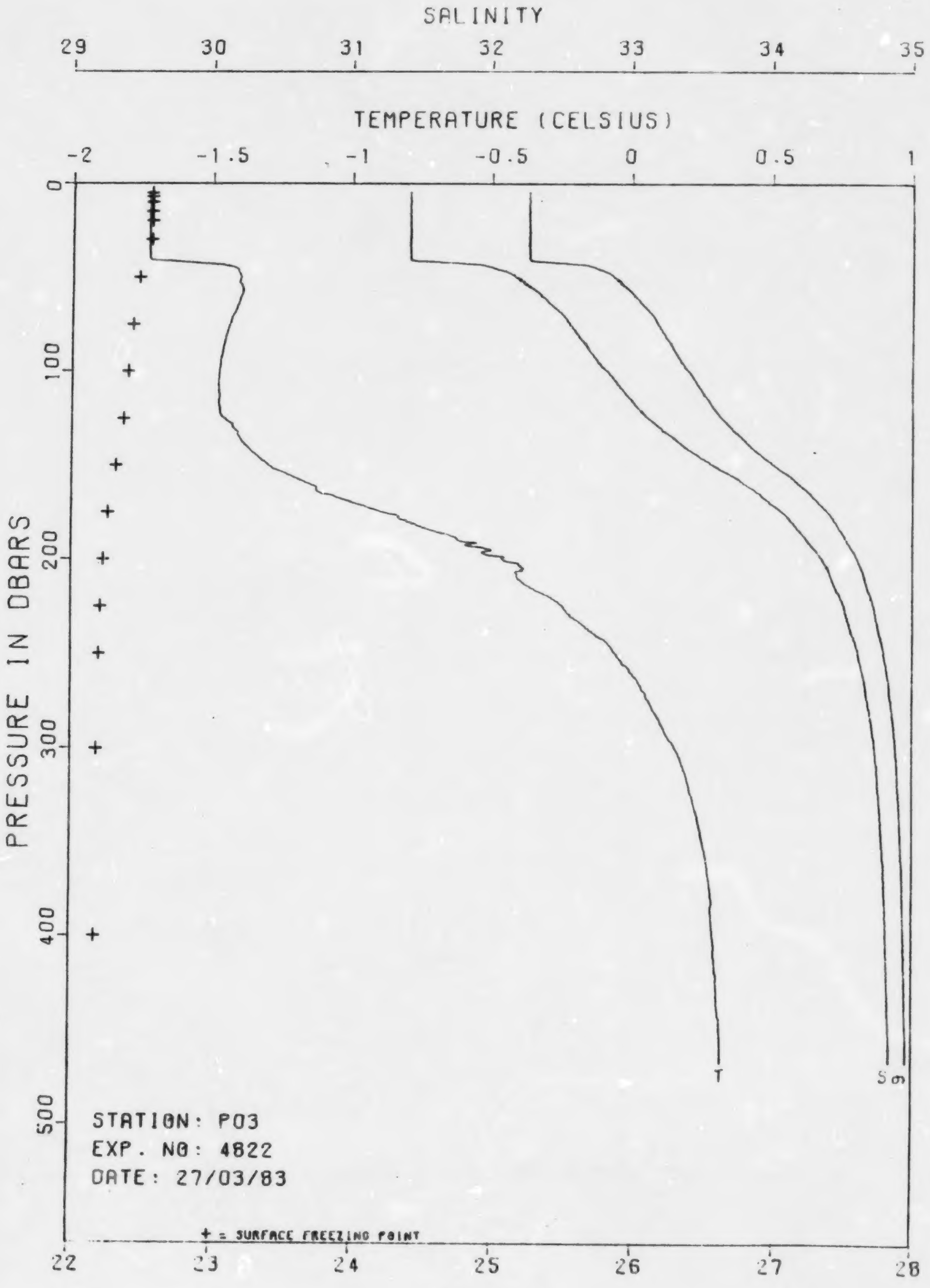
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: P03
EXP. NO: 4822
DATE: 27/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE P03   EXPERIMENT 4822

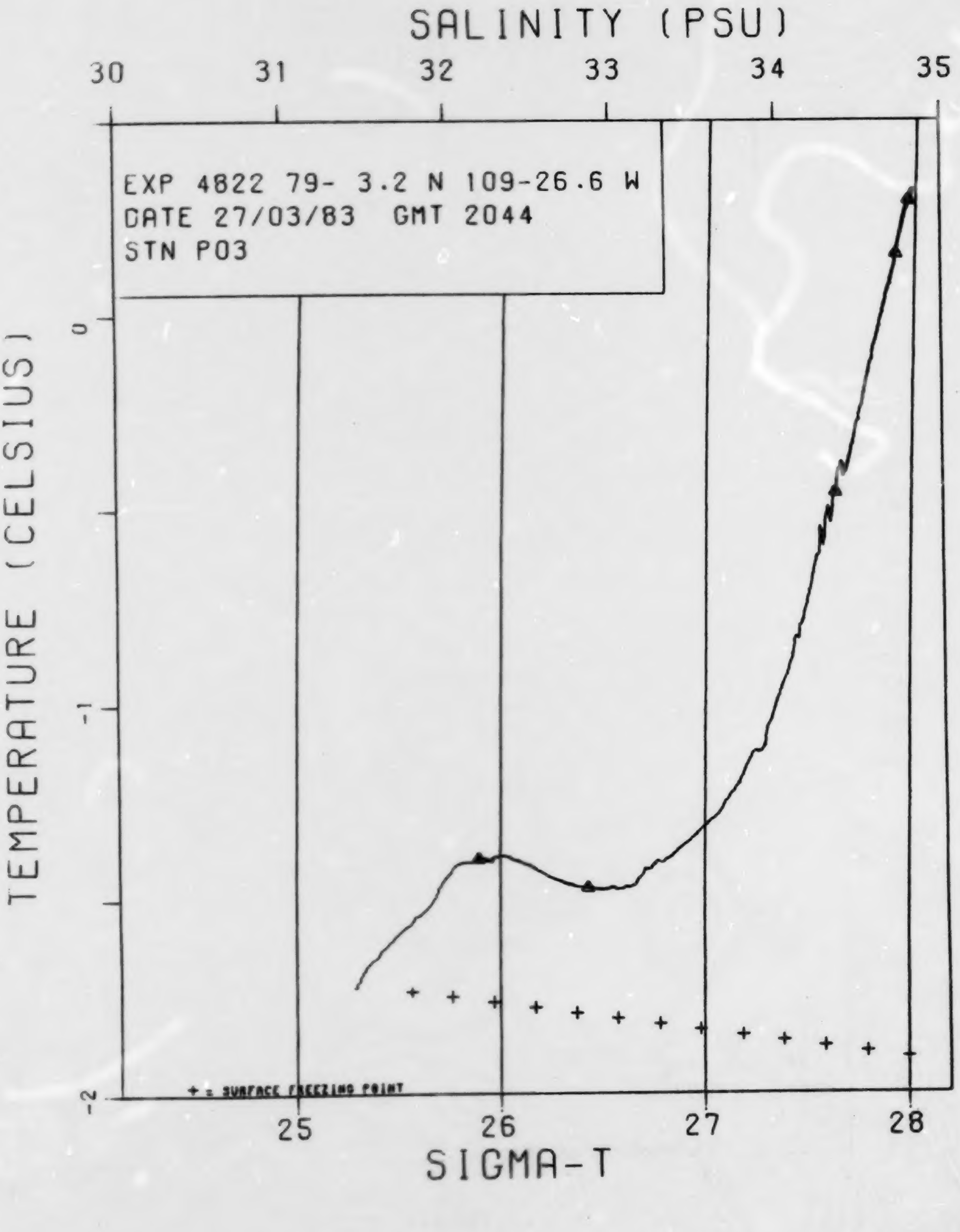
LAT.N. 79- 3-11   LON.W. 109-26-35   DATE 27/ 3/83   G.M.T. 2044

ICE THICKNESS   2.3 M   WATER DEPTH   465   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.727	.58220	31.412	25.263	.013	1436.3
5.0	-1.727	.58222	31.414	25.264	.013	1436.3
6.0	-1.727	.58224	31.414	25.264	.016	1436.3
7.0	-1.727	.58225	31.414	25.264	.019	1436.3
8.0	-1.727	.58204	31.401	25.254	.022	1436.3
9.0	-1.727	.58225	31.412	25.263	.024	1436.4
10.0	-1.726	.58220	31.408	25.259	.027	1436.4
11.0	-1.727	.58227	31.413	25.263	.030	1436.4
12.0	-1.727	.58225	31.410	25.261	.032	1436.4
13.0	-1.727	.58229	31.413	25.263	.035	1436.4
14.0	-1.727	.58231	31.413	25.264	.038	1436.4
15.0	-1.726	.58233	31.413	25.264	.040	1436.5
16.0	-1.726	.58235	31.413	25.264	.043	1436.5
17.0	-1.727	.58236	31.414	25.264	.046	1436.5
18.0	-1.726	.58231	31.410	25.261	.049	1436.5
19.0	-1.726	.58239	31.414	25.265	.051	1436.5
20.0	-1.726	.58240	31.414	25.265	.054	1436.5
21.0	-1.726	.58242	31.415	25.265	.057	1436.6
22.0	-1.727	.58248	31.419	25.268	.059	1436.6
23.0	-1.726	.58245	31.416	25.266	.062	1436.6
24.0	-1.727	.58241	31.413	25.264	.065	1436.6
25.0	-1.727	.58246	31.415	25.265	.067	1436.6
27.5	-1.726	.58258	31.420	25.269	.074	1436.7
30.0	-1.726	.58249	31.414	25.264	.081	1436.7
32.5	-1.726	.58240	31.407	25.258	.088	1436.7
35.0	-1.727	.58255	31.415	25.265	.094	1436.8
37.5	-1.725	.58262	31.416	25.266	.101	1436.8
40.0	-1.723	.58261	31.412	25.262	.108	1436.9
42.5	-1.555	.59172	31.769	25.549	.114	1438.2
45.0	-1.420	.59835	32.013	25.744	.120	1439.3
47.5	-1.407	.60039	32.118	25.829	.126	1439.5
50.0	-1.397	.60151	32.171	25.872	.131	1439.7
55.0	-1.394	.60343	32.278	25.959	.141	1439.9
60.0	-1.394	.60487	32.360	26.026	.151	1440.1
65.0	-1.408	.60586	32.431	26.083	.161	1440.2
70.0	-1.423	.60685	32.502	26.141	.170	1440.3
75.0	-1.436	.60760	32.558	26.187	.180	1440.4
80.0	-1.447	.60828	32.606	26.226	.189	1440.5
85.0	-1.456	.60923	32.670	26.278	.197	1440.7
90.0	-1.462	.60974	32.703	26.306	.206	1440.8
95.0	-1.469	.61065	32.761	26.353	.214	1440.9
100.0	-1.474	.61175	32.828	26.407	.222	1441.0
105.0	-1.476	.61264	32.880	26.449	.230	1441.2
110.0	-1.476	.61366	32.938	26.496	.238	1441.4

SITE P03 EXPERIMENT 4822

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.475	.61473	32.996	26.543	.246	1441.5
120.0	-1.468	.61588	33.054	26.590	.253	1441.7
125.0	-1.456	.61731	33.122	26.645	.260	1442.0
130.0	-1.425	.61935	33.205	26.712	.267	1442.3
135.0	-1.402	.62132	33.292	26.782	.273	1442.6
140.0	-1.373	.62336	33.377	26.850	.279	1442.9
145.0	-1.336	.62582	33.477	26.930	.285	1443.3
150.0	-1.295	.62849	33.586	27.017	.290	1443.8
155.0	-1.227	.63184	33.703	27.110	.295	1444.3
160.0	-1.149	.63512	33.804	27.189	.299	1444.9
165.0	-1.106	.63776	33.908	27.272	.303	1445.4
170.0	-.992	.64134	33.965	27.331	.307	1446.1
175.0	-.885	.64500	34.076	27.400	.311	1446.8
180.0	-.800	.64771	34.134	27.443	.314	1447.3
185.0	-.703	.65072	34.195	27.489	.317	1448.0
190.0	-.616	.65338	34.248	27.528	.320	1448.5
195.0	-.495	.65677	34.305	27.569	.322	1449.2
200.0	-.458	.65840	34.353	27.607	.325	1449.6
210.0	-.407	.66067	34.420	27.658	.329	1450.1
220.0	-.287	.66419	34.481	27.702	.333	1450.9
230.0	-.216	.66647	34.525	27.734	.337	1451.4
240.0	-.125	.66916	34.570	27.765	.340	1452.1
250.0	-.056	.67140	34.613	27.797	.343	1452.6
260.0	.002	.67318	34.643	27.818	.346	1453.1
270.0	.047	.67463	34.669	27.836	.349	1453.5
280.0	.079	.67585	34.695	27.856	.351	1453.8
290.0	.118	.67709	34.716	27.871	.353	1454.2
300.0	.155	.67824	34.733	27.882	.356	1454.6
310.0	.185	.67923	34.750	27.894	.358	1454.9
320.0	.205	.67984	34.755	27.897	.360	1455.1
330.0	.223	.68047	34.765	27.904	.362	1455.4
340.0	.240	.68110	34.775	27.911	.364	1455.7
350.0	.254	.68167	34.785	27.919	.365	1455.9
360.0	.267	.68218	34.793	27.924	.367	1456.1
370.0	.277	.68262	34.800	27.930	.369	1456.4
380.0	.285	.68296	34.805	27.933	.371	1456.6
390.0	.285	.68316	34.810	27.937	.372	1456.7
400.0	.292	.68346	34.814	27.940	.374	1456.9
425.0	.303	.68413	34.823	27.947	.378	1457.4
450.0	.317	.68482	34.832	27.953	.381	1457.9
467.5	.320	.68517	34.838	27.958	.384	1458.2


SALINITY (PSU)
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EXP 4822 79- 3.2 N 109-26.6 W
DATE 27/03/83 GMT 2044
STN P03
TEMPERATURE (CELSIUS)
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+ = SURFACE FREEZING POINT
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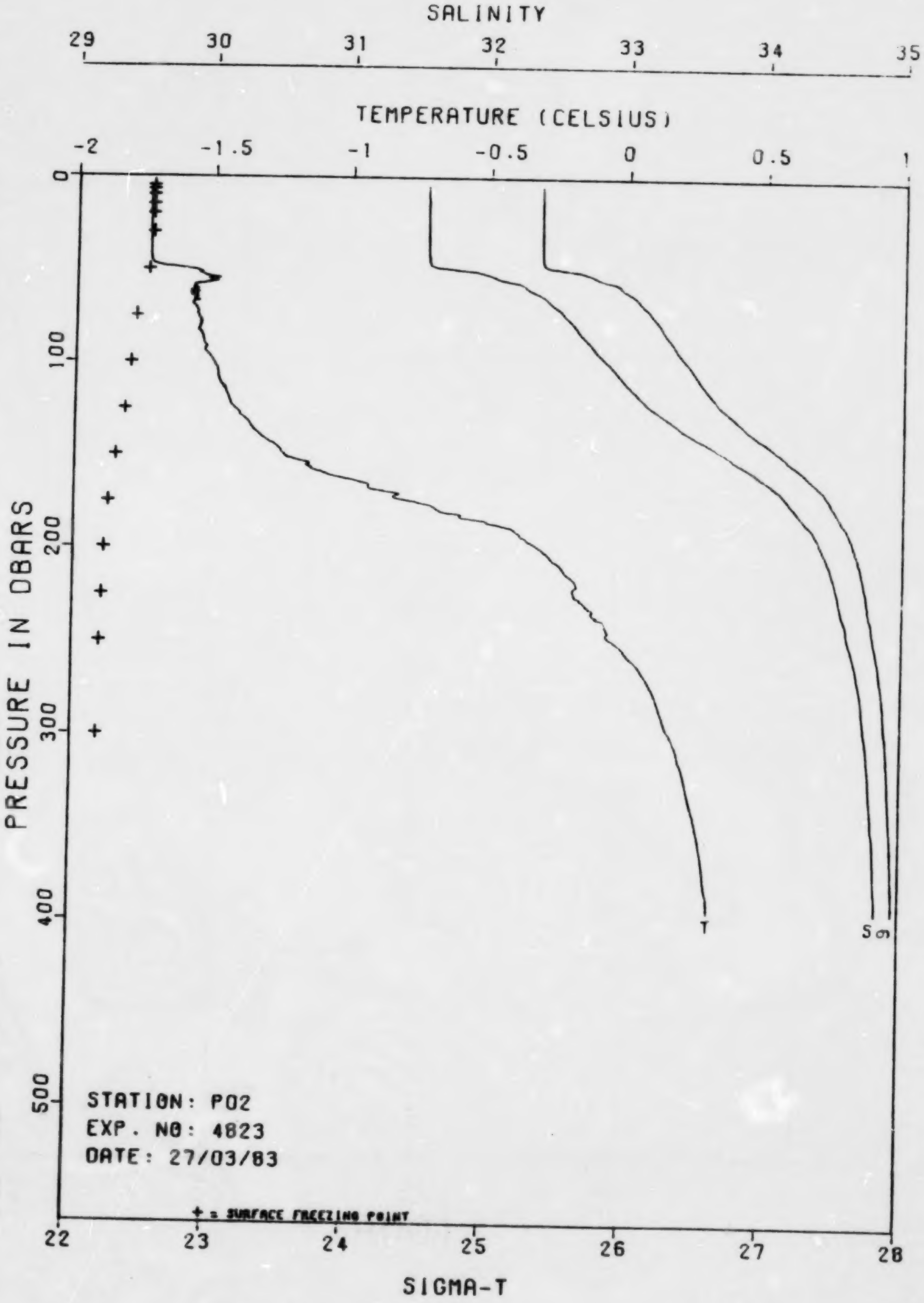
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: P02
EXP. NO: 4823
DATE: 27/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE P02 EXPERIMENT 4823

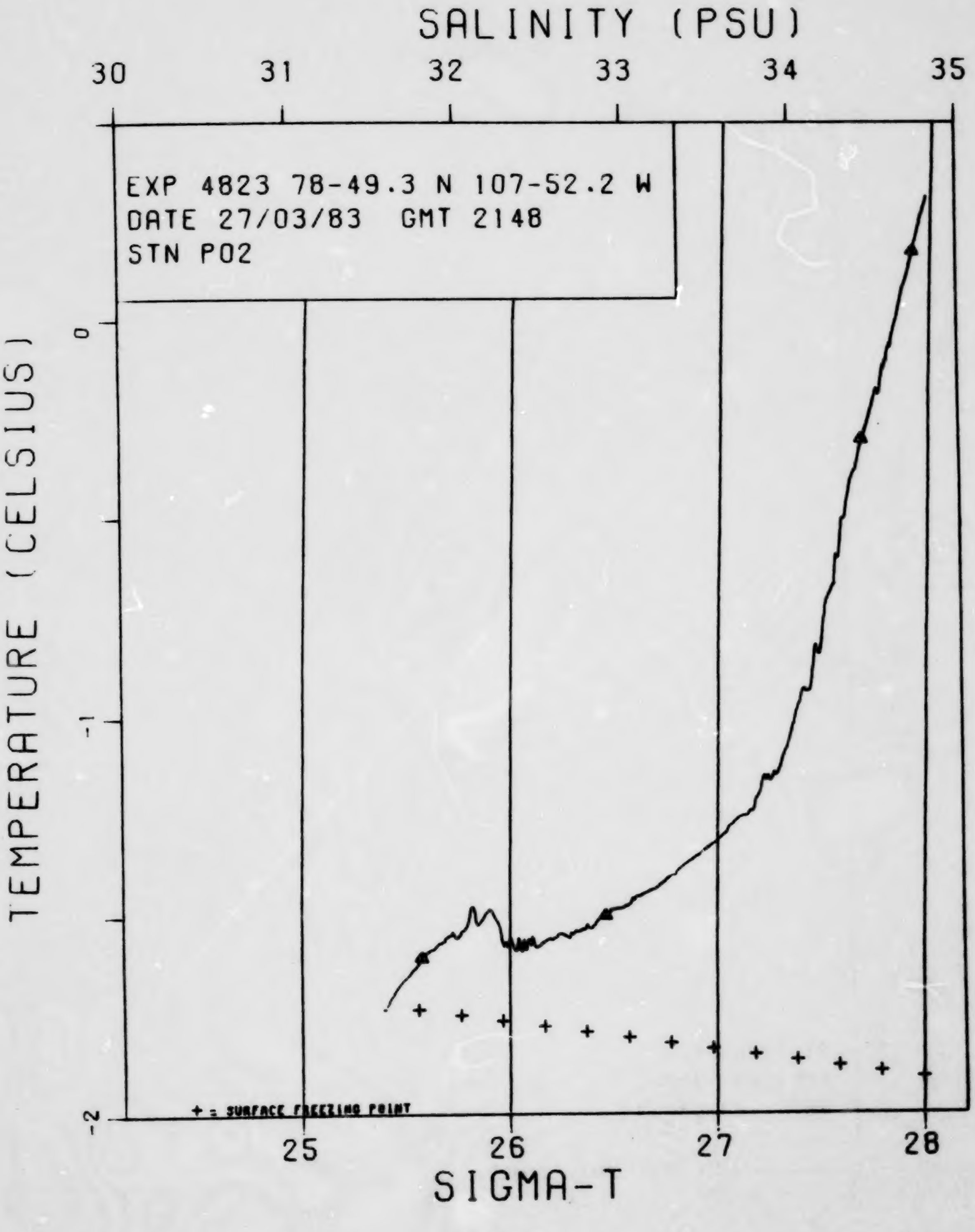
LAT.N. 78-49-18 LON.W. 107-52-11 DATE 27/ 3/83 G.M.T. 2148

ICE THICKNESS 2.0 M WATER DEPTH 394 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.9	-1.736	.58427	31.544	25.370	.013	1436.4
5.0	-1.736	.58427	31.544	25.370	.013	1436.4
6.0	-1.737	.58425	31.544	25.370	.016	1436.5
7.0	-1.736	.58428	31.544	25.370	.018	1436.5
8.0	-1.737	.58422	31.540	25.367	.021	1436.5
9.0	-1.736	.58430	31.544	25.370	.023	1436.5
10.0	-1.736	.58432	31.544	25.370	.026	1436.5
11.0	-1.736	.58434	31.545	25.371	.029	1436.5
12.0	-1.736	.58436	31.546	25.372	.031	1436.6
13.0	-1.735	.58433	31.542	25.369	.034	1436.6
14.0	-1.735	.58438	31.545	25.371	.036	1436.6
15.0	-1.736	.58434	31.542	25.369	.039	1436.6
16.0	-1.735	.58437	31.543	25.369	.042	1436.6
17.0	-1.736	.58439	31.545	25.371	.044	1436.6
18.0	-1.736	.58435	31.542	25.368	.047	1436.6
19.0	-1.737	.58443	31.546	25.372	.049	1436.7
20.0	-1.736	.58441	31.543	25.370	.052	1436.7
21.0	-1.736	.58446	31.546	25.372	.054	1436.7
22.0	-1.736	.58449	31.547	25.373	.057	1436.7
23.0	-1.736	.58448	31.546	25.372	.060	1436.7
24.0	-1.737	.58450	31.547	25.373	.062	1436.8
25.0	-1.736	.58449	31.546	25.371	.065	1436.8
27.5	-1.736	.58453	31.547	25.372	.071	1436.8
30.0	-1.735	.58455	31.545	25.371	.078	1436.9
32.5	-1.735	.58459	31.546	25.371	.084	1436.9
35.0	-1.735	.58459	31.545	25.370	.091	1436.9
37.5	-1.735	.58466	31.548	25.373	.097	1437.0
40.0	-1.735	.58471	31.548	25.373	.104	1437.0
42.5	-1.735	.58477	31.551	25.376	.110	1437.1
45.0	-1.732	.58495	31.556	25.380	.117	1437.1
47.5	-1.718	.58551	31.573	25.393	.123	1437.3
50.0	-1.588	.59198	31.815	25.586	.129	1438.3
55.0	-1.484	.59842	32.060	25.801	.141	1439.2
60.0	-1.571	.60010	32.271	25.957	.151	1439.1
65.0	-1.564	.60252	32.403	26.064	.161	1439.4
70.0	-1.572	.60375	32.482	26.128	.170	1439.6
75.0	-1.559	.60519	32.549	26.183	.180	1439.8
80.0	-1.546	.60666	32.619	26.239	.188	1440.1
85.0	-1.549	.60761	32.675	26.285	.197	1440.2
90.0	-1.535	.60900	32.739	26.336	.206	1440.5
95.0	-1.527	.61014	32.795	26.381	.214	1440.7
100.0	-1.502	.61190	32.868	26.440	.222	1441.0
105.0	-1.485	.61325	32.926	26.487	.230	1441.2
110.0	-1.477	.61441	32.983	26.533	.237	1441.4

SITE P02 EXPERIMENT 4623

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.453	.61610	33.053	26.589	.244	1441.7
120.0	-1.441	.61755	33.122	26.645	.252	1441.9
125.0	-1.419	.61945	33.207	26.713	.256	1442.2
130.0	-1.386	.62175	33.303	26.790	.265	1442.6
135.0	-1.356	.62388	33.392	26.862	.271	1443.0
140.0	-1.322	.62652	33.506	26.953	.276	1443.4
145.0	-1.267	.62979	33.633	27.055	.281	1443.9
150.0	-1.236	.63227	33.742	27.142	.286	1444.3
155.0	-1.151	.63568	33.843	27.221	.291	1444.9
160.0	-1.080	.63887	33.948	27.303	.294	1445.5
165.0	-.934	.64354	34.051	27.382	.296	1446.4
170.0	-.822	.64710	34.129	27.441	.301	1447.1
175.0	-.750	.64948	34.183	27.481	.304	1447.6
180.0	-.667	.65218	34.242	27.526	.307	1448.1
185.0	-.504	.65634	34.295	27.562	.310	1449.0
190.0	-.403	.65943	34.356	27.606	.312	1449.7
195.0	-.358	.66098	34.392	27.633	.314	1450.0
200.0	-.303	.66262	34.421	27.654	.317	1450.4
210.0	-.230	.66517	34.478	27.697	.321	1451.0
220.0	-.179	.66694	34.516	27.724	.324	1451.4
230.0	-.142	.66835	34.549	27.750	.328	1451.8
240.0	-.073	.67052	34.588	27.776	.331	1452.3
250.0	-.033	.67194	34.618	27.800	.334	1452.7
260.0	.036	.67412	34.658	27.826	.337	1453.2
270.0	.083	.67561	34.683	27.646	.339	1453.7
280.0	.115	.67681	34.709	27.865	.342	1454.0
290.0	.141	.67771	34.725	27.876	.344	1454.3
300.0	.171	.67874	34.743	27.890	.346	1454.6
310.0	.196	.67961	34.758	27.900	.348	1454.9
320.0	.219	.68037	34.770	27.908	.350	1455.2
330.0	.233	.68094	34.779	27.915	.352	1455.5
340.0	.251	.68156	34.789	27.922	.354	1455.7
350.0	.267	.68217	34.798	27.929	.355	1456.0
360.0	.281	.68278	34.811	27.938	.357	1456.2
370.0	.291	.68322	34.818	27.944	.359	1456.4
380.0	.299	.68356	34.823	27.946	.360	1456.6
390.0	.311	.68400	34.828	27.951	.362	1456.9
394.0	.311	.68407	34.830	27.952	.362	1456.9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EXP 4823 78-49.3 N 107-52.2 W
DATE 27/03/83 GMT 2148
STN P02
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+ = SURFACE FREEZING POINT
25
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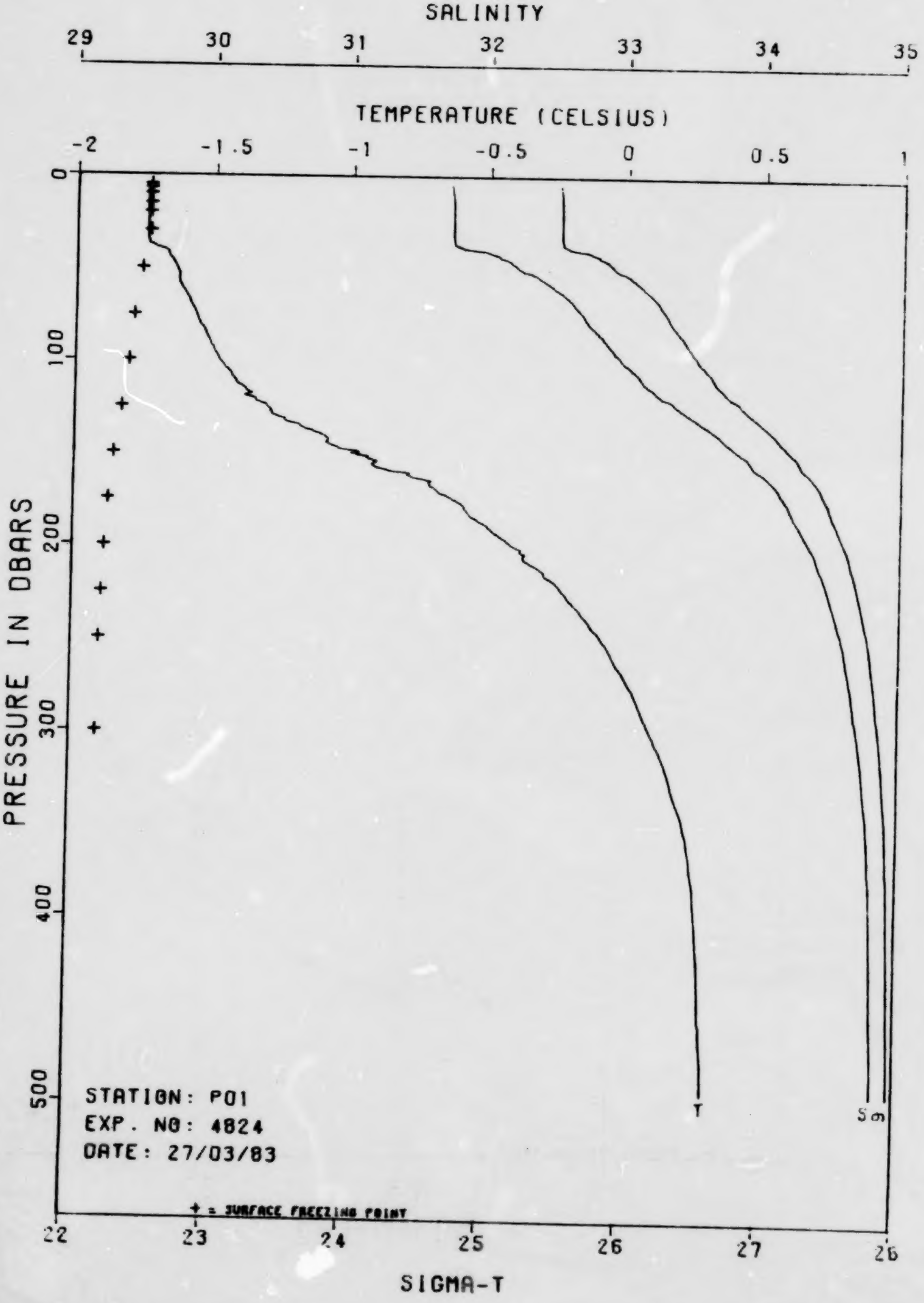
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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-1
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PRESSURE IN DBARS
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STATION: P01
EXP. NO: 4824
DATE: 27/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE P01 EXPERIMENT 4824

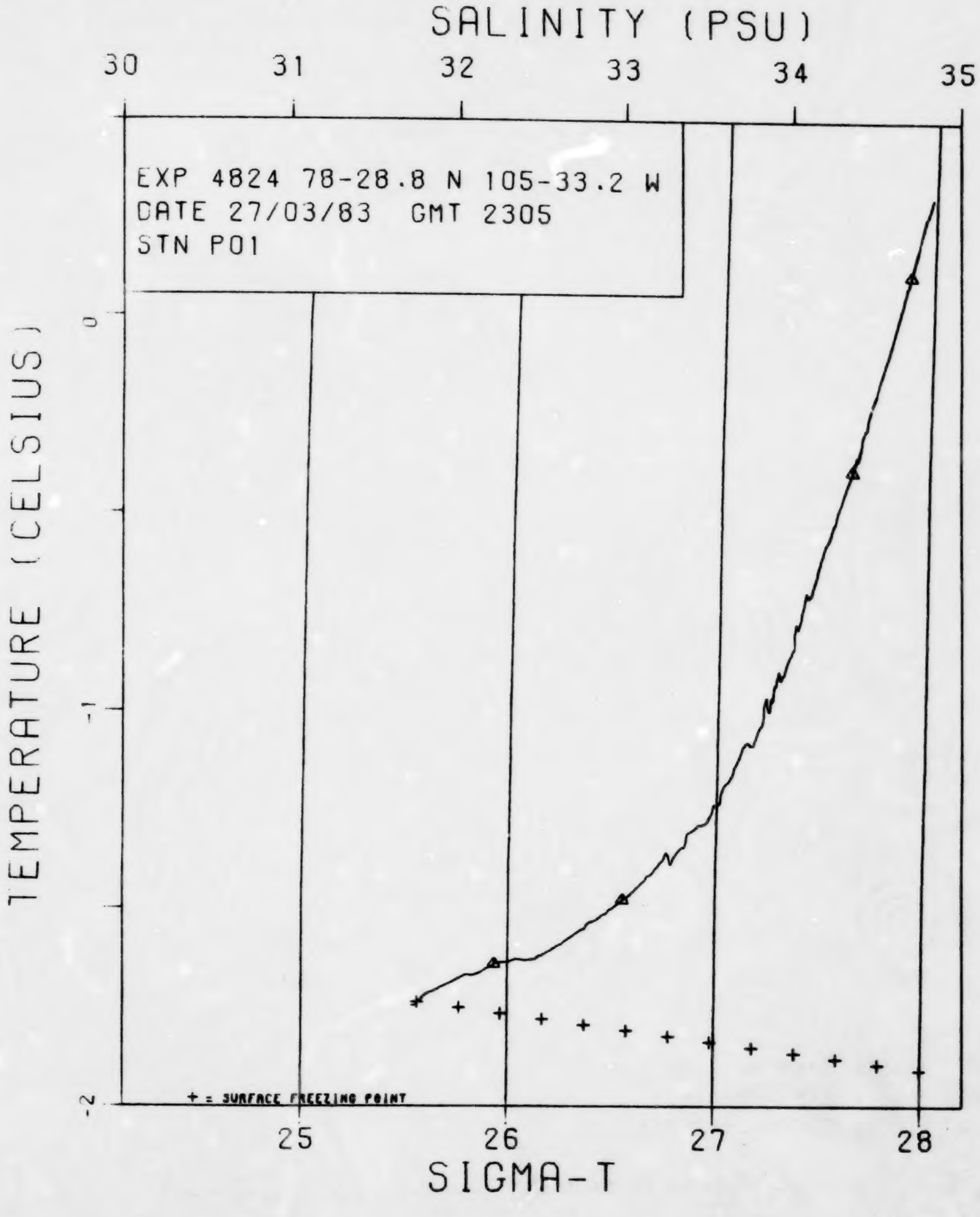
LAT.N. 78-28-47 LON.W. 105-33-11 DATE 27/ 3/83 G.M.T. 2305

ICE THICKNESS 2.1 M WATER DEPTH 493 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.745	.58694	31.712	25.507	.012	1436.6
5.0	-1.745	.58701	31.717	25.511	.012	1436.6
6.0	-1.745	.58704	31.718	25.512	.015	1436.7
7.0	-1.745	.58711	31.721	25.514	.017	1436.7
8.0	-1.745	.58712	31.721	25.514	.020	1436.7
9.0	-1.746	.58715	31.723	25.516	.022	1436.7
10.0	-1.746	.58721	31.726	25.518	.025	1436.7
11.0	-1.745	.58724	31.727	25.519	.027	1436.7
12.0	-1.746	.58726	31.728	25.520	.030	1436.8
13.0	-1.746	.58728	31.729	25.521	.032	1436.8
14.0	-1.745	.58730	31.728	25.520	.034	1436.8
15.0	-1.746	.58728	31.728	25.519	.037	1436.8
16.0	-1.745	.58733	31.729	25.521	.039	1436.8
17.0	-1.746	.58734	31.730	25.521	.042	1436.9
18.0	-1.746	.58736	31.730	25.521	.044	1436.9
19.0	-1.746	.58736	31.729	25.521	.047	1436.9
20.0	-1.746	.58737	31.730	25.521	.049	1436.9
21.0	-1.746	.58739	31.730	25.521	.052	1436.9
22.0	-1.745	.58740	31.729	25.521	.054	1436.9
23.0	-1.746	.58742	31.731	25.522	.057	1437.0
24.0	-1.746	.58743	31.731	25.523	.059	1437.0
25.0	-1.746	.58744	31.731	25.522	.061	1437.0
27.5	-1.746	.58747	31.731	25.522	.068	1437.0
30.0	-1.745	.58750	31.731	25.522	.074	1437.1
32.5	-1.745	.58754	31.731	25.522	.080	1437.1
35.0	-1.744	.58766	31.736	25.526	.086	1437.2
37.5	-1.738	.58804	31.750	25.538	.092	1437.3
40.0	-1.696	.59136	31.901	25.659	.098	1437.7
42.5	-1.666	.59438	32.046	25.777	.104	1438.1
45.0	-1.661	.59587	32.127	25.842	.109	1438.3
47.5	-1.649	.59688	32.173	25.879	.114	1438.4
50.0	-1.640	.59782	32.216	25.914	.120	1438.6
55.0	-1.628	.60054	32.362	26.032	.130	1438.9
60.0	-1.623	.60243	32.465	26.116	.139	1439.2
65.0	-1.600	.60450	32.560	26.193	.148	1439.5
70.0	-1.585	.60588	32.622	26.242	.157	1439.7
75.0	-1.565	.60739	32.687	26.295	.166	1440.0
80.0	-1.552	.60841	32.730	26.329	.174	1440.2
85.0	-1.532	.61004	32.800	26.386	.183	1440.5
90.0	-1.515	.61141	32.860	26.434	.191	1440.7
95.0	-1.497	.61271	32.914	26.478	.198	1441.0
100.0	-1.477	.61422	32.978	26.529	.206	1441.2
105.0	-1.447	.61621	33.059	26.594	.213	1441.6
110.0	-1.424	.61771	33.118	26.642	.220	1441.9

SITE PC1   EXPERIMENT 4824

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.382	.61990	33.198	26.705	.227	1442.2
120.0	-1.355	.62224	33.303	26.790	.233	1442.6
125.0	-1.300	.62490	33.396	26.863	.239	1443.1
130.0	-1.266	.62730	33.495	26.942	.245	1443.5
135.0	-1.181	.63070	33.596	27.022	.250	1444.1
140.0	-1.099	.63384	33.686	27.092	.255	1444.7
145.0	-1.073	.63571	33.763	27.153	.260	1445.0
150.0	-.980	.63920	33.859	27.226	.264	1445.6
155.0	-.909	.64154	33.913	27.269	.268	1446.1
160.0	-.796	.64530	34.002	27.337	.272	1446.9
165.0	-.697	.64851	34.074	27.391	.276	1447.5
170.0	-.676	.64978	34.120	27.427	.279	1447.7
175.0	-.612	.65185	34.164	27.460	.282	1448.2
180.0	-.575	.65318	34.197	27.485	.285	1448.5
185.0	-.532	.65475	34.236	27.515	.288	1448.8
190.0	-.486	.65635	34.273	27.543	.291	1449.2
195.0	-.442	.65795	34.312	27.573	.293	1449.5
200.0	-.389	.65977	34.354	27.604	.296	1449.9
210.0	-.320	.66216	34.408	27.644	.300	1450.4
220.0	-.241	.66475	34.461	27.683	.304	1451.0
230.0	-.182	.66678	34.504	27.715	.308	1451.5
240.0	-.125	.66875	34.546	27.746	.312	1452.0
250.0	-.075	.67052	34.584	27.775	.315	1452.5
260.0	-.033	.67192	34.611	27.794	.318	1452.9
270.0	.010	.67335	34.638	27.813	.321	1453.3
280.0	.047	.67461	34.661	27.830	.323	1453.6
290.0	.075	.67560	34.679	27.844	.326	1453.9
300.0	.105	.67674	34.704	27.861	.328	1454.3
310.0	.138	.67784	34.724	27.876	.330	1454.6
320.0	.165	.67877	34.740	27.887	.333	1454.9
330.0	.183	.67945	34.751	27.896	.335	1455.2
340.0	.208	.68032	34.766	27.906	.337	1455.5
350.0	.228	.68103	34.778	27.915	.338	1455.8
360.0	.242	.68159	34.788	27.922	.340	1456.0
370.0	.253	.68203	34.794	27.926	.342	1456.2
380.0	.263	.68252	34.805	27.935	.344	1456.5
390.0	.269	.68284	34.810	27.938	.345	1456.7
400.0	.274	.68312	34.814	27.941	.347	1456.8
425.0	.286	.68378	34.823	27.948	.351	1457.3
450.0	.290	.68422	34.828	27.952	.355	1457.8
475.0	.302	.68487	34.837	27.958	.358	1458.2
494.7	.305	.68514	34.838	27.958	.361	1458.6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EXP 4824 78-28.8 N 105-33.2 W
DATE 27/03/83 GMT 2305
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+ = SURFACE FREEZING POINT
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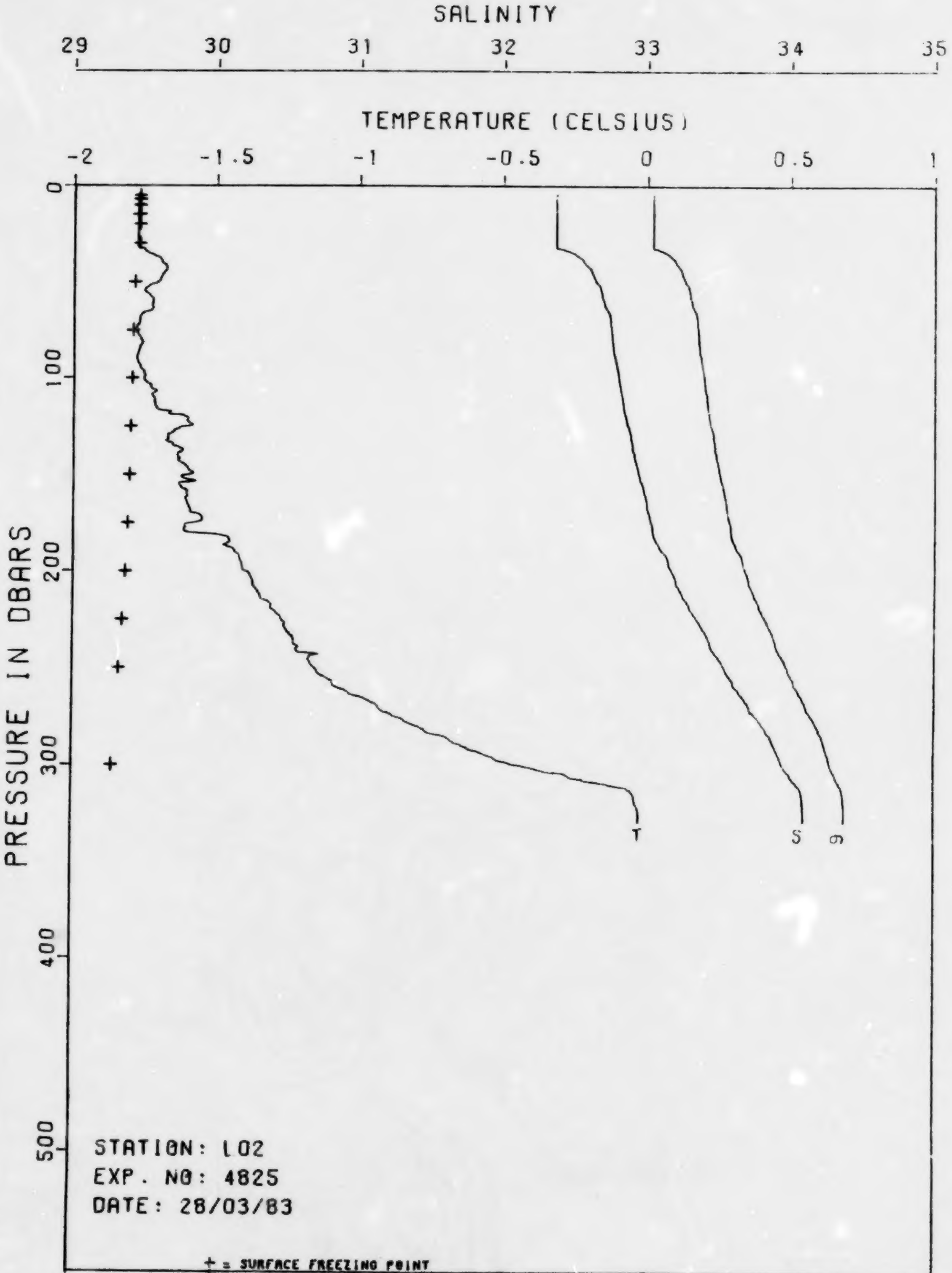
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: L02
EXP. NO: 4825
DATE: 28/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE L02 EXPERIMENT 4825

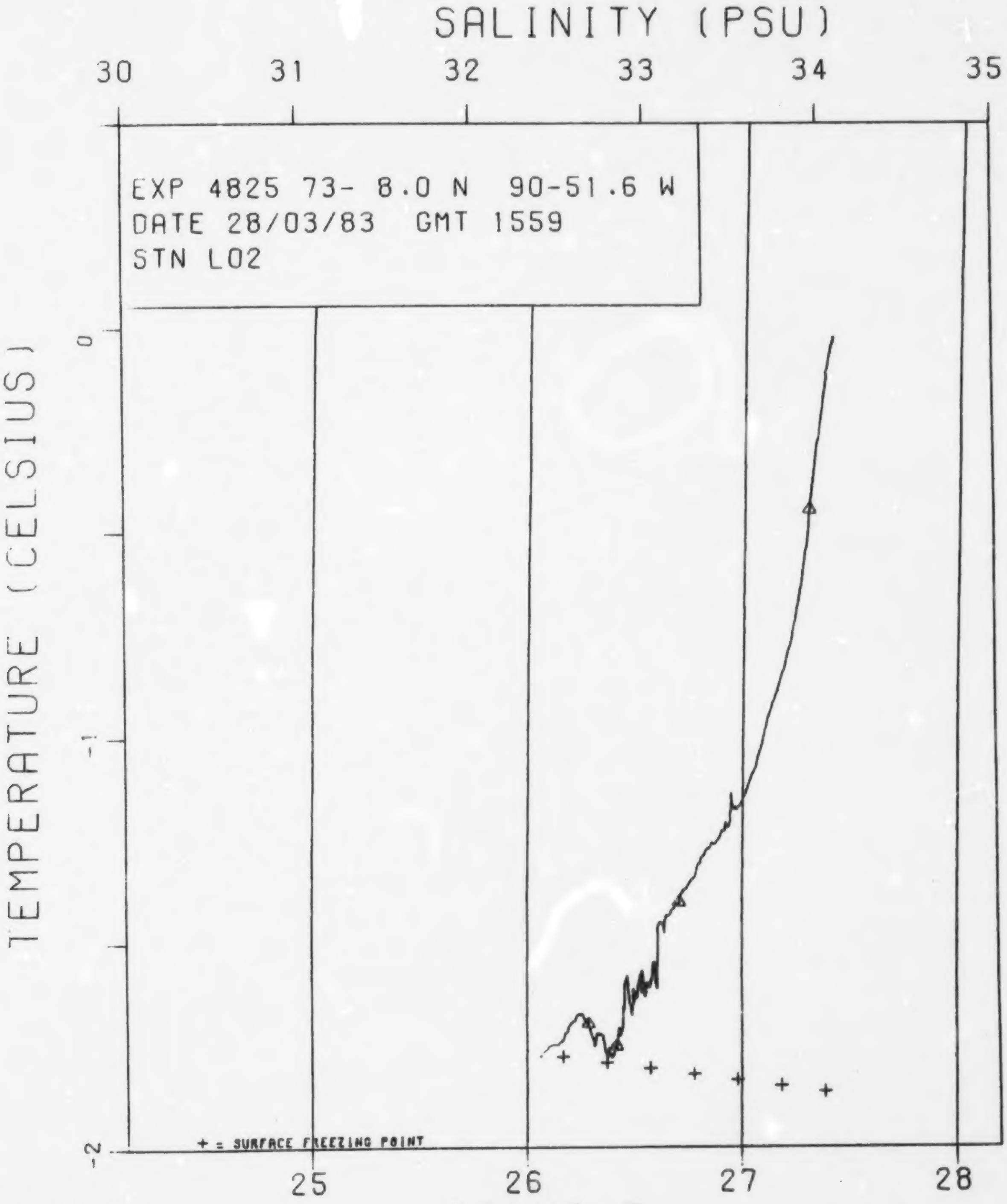
LAT.N. 73- 8- 0 LON.W. 90-51-35 DATE 28/ 3/83 G.M.T. 1559

ICE THICKNESS 1.7 M WATER DEPTH 329 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.778	.59732	32.366	26.039	.009	1437.4
5.0	-1.778	.59731	32.365	26.038	.010	1437.4
6.0	-1.778	.59732	32.364	26.037	.012	1437.4
7.0	-1.778	.59726	32.360	26.034	.014	1437.4
8.0	-1.778	.59727	32.360	26.034	.016	1437.4
9.0	-1.778	.59735	32.364	26.037	.018	1437.5
10.0	-1.778	.59737	32.364	26.038	.020	1437.5
11.0	-1.778	.59738	32.365	26.038	.022	1437.5
12.0	-1.777	.59739	32.364	26.037	.024	1437.5
13.0	-1.778	.59739	32.364	26.037	.025	1437.5
14.0	-1.778	.59742	32.365	26.038	.027	1437.5
15.0	-1.778	.59743	32.365	26.038	.029	1437.6
16.0	-1.778	.59743	32.365	26.038	.031	1437.6
17.0	-1.778	.59744	32.364	26.038	.033	1437.6
18.0	-1.778	.59746	32.365	26.038	.035	1437.6
19.0	-1.778	.59746	32.365	26.038	.037	1437.6
20.0	-1.777	.59747	32.364	26.037	.039	1437.6
21.0	-1.778	.59748	32.365	26.038	.041	1437.7
22.0	-1.778	.59749	32.365	26.038	.043	1437.7
23.0	-1.778	.59750	32.365	26.038	.045	1437.7
24.0	-1.777	.59752	32.364	26.038	.047	1437.7
25.0	-1.778	.59753	32.365	26.038	.049	1437.7
27.5	-1.778	.59755	32.364	26.038	.054	1437.8
30.0	-1.778	.59757	32.364	26.038	.059	1437.8
32.5	-1.776	.59769	32.368	26.040	.064	1437.9
35.0	-1.744	.60028	32.485	26.135	.068	1438.2
37.5	-1.703	.60183	32.531	26.172	.073	1438.5
40.0	-1.692	.60259	32.563	26.197	.078	1438.7
42.5	-1.676	.60345	32.594	26.222	.082	1438.8
45.0	-1.684	.60365	32.614	26.238	.086	1438.8
47.5	-1.694	.60371	32.627	26.249	.091	1438.9
50.0	-1.702	.60388	32.643	26.263	.095	1438.9
55.0	-1.756	.60349	32.677	26.291	.104	1438.8
60.0	-1.722	.60449	32.697	26.306	.112	1439.0
65.0	-1.730	.60487	32.725	26.330	.121	1439.1
70.0	-1.771	.60448	32.744	26.346	.129	1439.0
75.0	-1.783	.60442	32.750	26.351	.138	1439.1
80.0	-1.765	.60489	32.755	26.355	.146	1439.2
85.0	-1.772	.60498	32.766	26.364	.154	1439.3
90.0	-1.781	.60508	32.778	26.374	.162	1439.4
95.0	-1.767	.60560	32.791	26.384	.170	1439.5
100.0	-1.755	.60608	32.803	26.393	.179	1439.7
105.0	-1.732	.60674	32.813	26.401	.187	1439.9
110.0	-1.722	.60724	32.828	26.414	.195	1440.0

SITE LO2 EXPERIMENT 4625

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.716	.60750	32.835	26.419	.203	1440.2
120.0	-1.610	.60980	32.851	26.429	.210	1440.8
125.0	-1.587	.61054	32.867	26.442	.218	1441.0
130.0	-1.668	.60947	32.890	26.462	.226	1440.7
135.0	-1.651	.61002	32.900	26.470	.234	1440.9
140.0	-1.638	.61054	32.914	26.481	.242	1441.0
145.0	-1.612	.61134	32.929	26.493	.249	1441.3
150.0	-1.587	.61214	32.945	26.505	.257	1441.5
155.0	-1.635	.61169	32.969	26.526	.264	1441.4
160.0	-1.605	.61253	32.982	26.536	.272	1441.6
165.0	-1.602	.61293	33.000	26.550	.279	1441.7
170.0	-1.587	.61342	33.009	26.557	.286	1441.9
175.0	-1.573	.61402	33.026	26.571	.293	1442.1
180.0	-1.601	.61376	33.039	26.582	.301	1442.1
185.0	-1.451	.61708	33.065	26.599	.308	1442.9
190.0	-1.436	.61812	33.108	26.633	.315	1443.1
195.0	-1.413	.61928	33.147	26.665	.322	1443.3
200.0	-1.401	.61992	33.169	26.682	.328	1443.5
210.0	-1.355	.62187	33.226	26.727	.341	1444.0
220.0	-1.304	.62415	33.297	26.783	.354	1444.5
230.0	-1.256	.62667	33.386	26.854	.366	1445.0
240.0	-1.221	.62852	33.449	26.904	.378	1445.4
250.0	-1.151	.63150	33.540	26.975	.389	1446.0
260.0	-1.073	.63443	33.618	27.035	.399	1446.7
270.0	-.930	.63888	33.711	27.106	.408	1447.6
280.0	-.790	.64338	33.810	27.181	.417	1448.6
290.0	-.637	.64778	33.887	27.237	.426	1449.6
300.0	-.430	.65288	33.944	27.274	.434	1450.8
310.0	-.131	.66056	34.045	27.341	.441	1452.4
320.0	-.038	.66320	34.085	27.369	.448	1453.1
329.5	-.026	.66361	34.089	27.372	.455	1453.3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EXP 4825 73- 8.0 N 90-51.6 W
DATE 28/03/83 GMT 1559
STN L02
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+ = SURFACE FREEZING POINT
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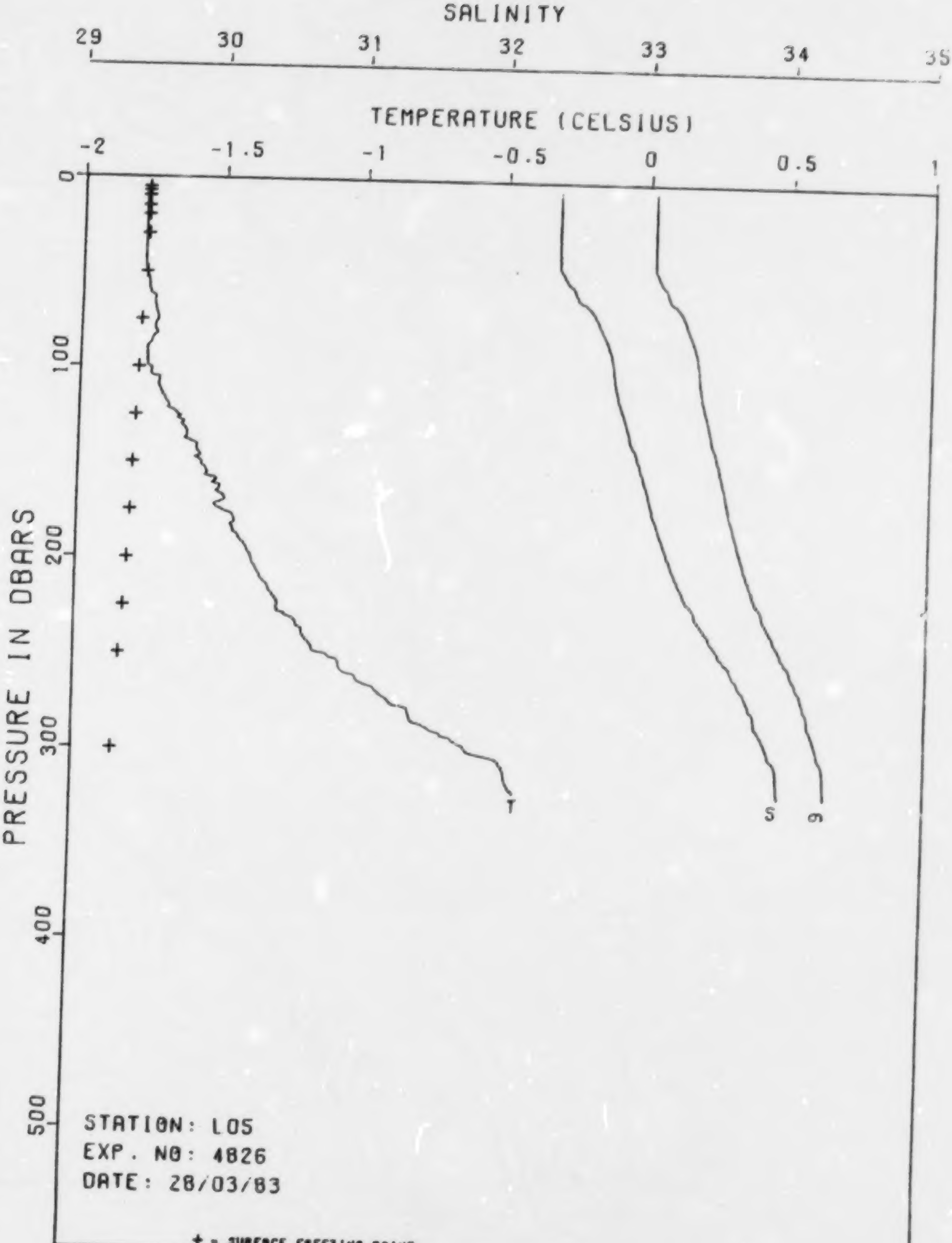
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: LOS
EXP. NO: 4826
DATE: 28/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE LOS EXPERIMENT 4826

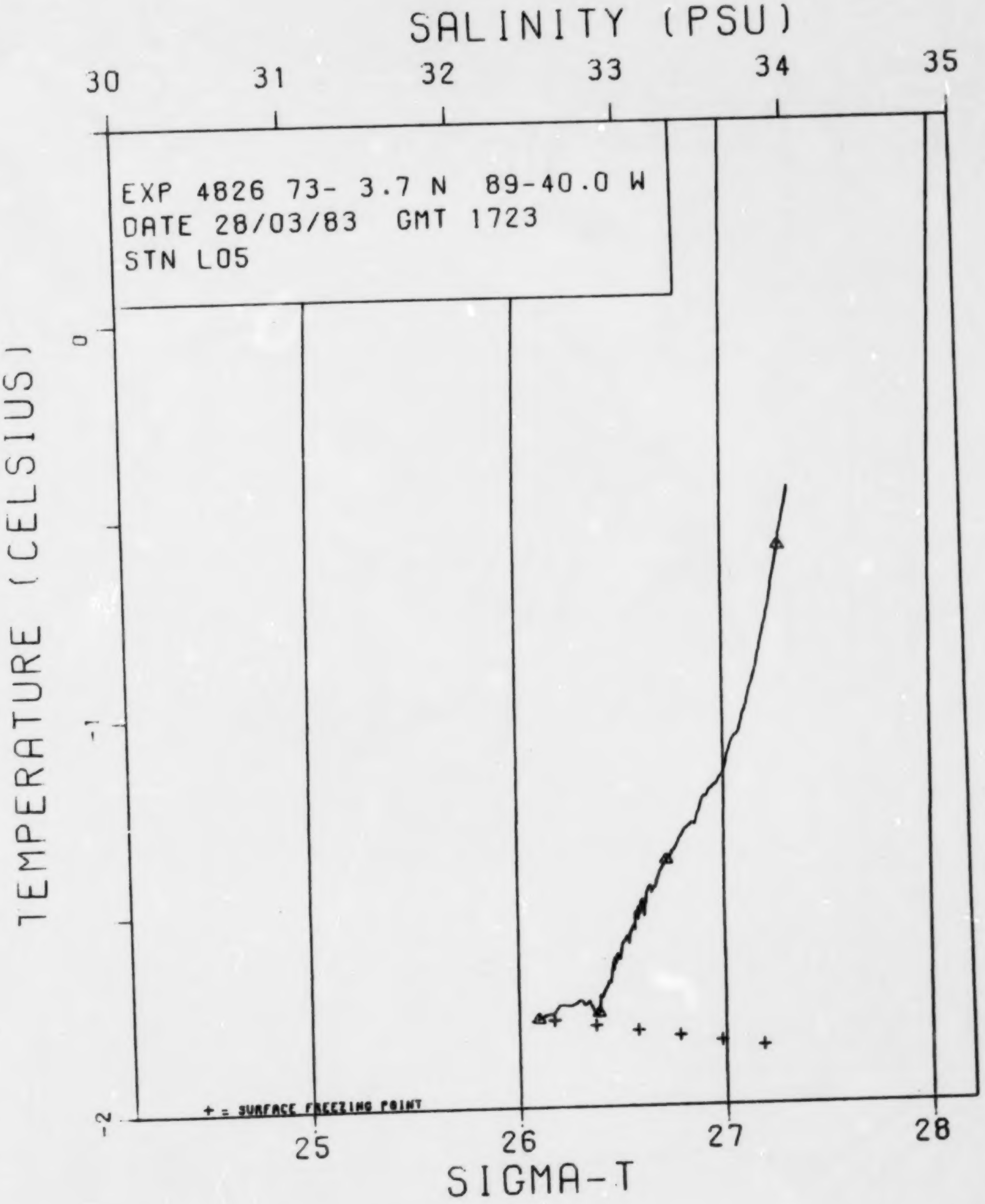
LAT.N. 73- 3-41 LON.W. 89-40- 0 DATE 28/ 3/83 G.M.T. 1723

ICE THICKNESS 1.7 M WATER DEPTH 321 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
5.0	-1.782	.59733	32.370	26.042	.010	1437.4
6.0	-1.781	.59719	32.360	26.034	.012	1437.4
7.0	-1.781	.59734	32.368	26.041	.014	1437.4
8.0	-1.781	.59731	32.366	26.039	.016	1437.4
9.0	-1.781	.59738	32.369	26.042	.018	1437.5
10.0	-1.781	.59736	32.367	26.040	.020	1437.5
11.0	-1.781	.59738	32.367	26.040	.022	1437.5
12.0	-1.781	.59738	32.367	26.040	.024	1437.5
13.0	-1.781	.59739	32.367	26.040	.025	1437.5
14.0	-1.781	.59730	32.361	26.035	.027	1437.5
15.0	-1.781	.59742	32.368	26.041	.029	1437.5
16.0	-1.781	.59739	32.366	26.039	.031	1437.6
17.0	-1.781	.59743	32.367	26.040	.033	1437.6
18.0	-1.781	.59744	32.368	26.040	.035	1437.6
19.0	-1.781	.59746	32.368	26.041	.037	1437.6
20.0	-1.781	.59747	32.368	26.041	.039	1437.6
21.0	-1.781	.59747	32.367	26.040	.041	1437.6
22.0	-1.781	.59741	32.362	26.036	.043	1437.7
23.0	-1.781	.59748	32.367	26.040	.045	1437.7
24.0	-1.780	.59749	32.366	26.039	.047	1437.7
25.0	-1.781	.59753	32.368	26.040	.049	1437.7
27.5	-1.781	.59752	32.367	26.040	.054	1437.7
30.0	-1.781	.59758	32.369	26.041	.059	1437.8
32.5	-1.781	.59761	32.368	26.041	.064	1437.8
35.0	-1.781	.59759	32.366	26.039	.069	1437.9
37.5	-1.781	.59767	32.369	26.041	.073	1437.9
40.0	-1.781	.59770	32.369	26.041	.078	1438.0
42.5	-1.781	.59772	32.369	26.041	.083	1438.0
45.0	-1.781	.59777	32.370	26.042	.088	1438.0
47.5	-1.778	.59821	32.392	26.060	.093	1438.1
50.0	-1.775	.59852	32.405	26.071	.098	1438.2
55.0	-1.764	.59983	32.468	26.122	.107	1438.4
60.0	-1.762	.60043	32.499	26.147	.117	1438.6
65.0	-1.745	.60207	32.574	26.207	.126	1438.8
70.0	-1.738	.60314	32.628	26.251	.135	1439.0
75.0	-1.731	.60383	32.657	26.275	.143	1439.2
80.0	-1.738	.60435	32.694	26.304	.152	1439.3
85.0	-1.748	.60473	32.724	26.329	.160	1439.4
90.0	-1.769	.60478	32.746	26.348	.169	1439.4
95.0	-1.761	.60514	32.756	26.356	.177	1439.5
100.0	-1.757	.60544	32.767	26.364	.185	1439.6
105.0	-1.728	.60616	32.775	26.370	.193	1439.8
110.0	-1.721	.60664	32.792	26.384	.201	1440.0
115.0	-1.704	.60730	32.809	26.397	.210	1440.2

SITE L05 EXPERIMENT 4526

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.683	.60812	32.832	26.415	.218	1440.4
125.0	-1.653	.60909	32.853	26.432	.226	1440.6
130.0	-1.641	.60969	32.873	26.446	.233	1440.8
135.0	-1.616	.61045	32.887	26.458	.241	1441.0
140.0	-1.583	.61177	32.925	26.489	.249	1441.3
145.0	-1.572	.61225	32.939	26.500	.256	1441.5
150.0	-1.562	.61292	32.964	26.520	.264	1441.6
155.0	-1.542	.61370	32.985	26.537	.271	1441.8
160.0	-1.514	.61469	33.010	26.556	.279	1442.1
165.0	-1.510	.61511	33.027	26.570	.286	1442.2
170.0	-1.495	.61579	33.047	26.585	.293	1442.4
175.0	-1.484	.61629	33.062	26.597	.300	1442.6
180.0	-1.443	.61761	33.091	26.620	.307	1442.9
185.0	-1.447	.61796	33.113	26.638	.314	1443.0
190.0	-1.422	.61888	33.137	26.657	.321	1443.2
195.0	-1.397	.61984	33.163	26.677	.328	1443.4
200.0	-1.379	.62068	33.189	26.696	.334	1443.6
210.0	-1.345	.62234	33.243	26.740	.347	1444.0
220.0	-1.297	.62460	33.316	26.798	.360	1444.5
230.0	-1.239	.62721	33.399	26.863	.372	1445.1
240.0	-1.190	.62965	33.481	26.929	.383	1445.6
250.0	-1.103	.63304	33.576	27.003	.394	1446.3
260.0	-1.007	.63664	33.673	27.078	.404	1447.1
270.0	-.914	.63965	33.739	27.128	.413	1447.7
280.0	-.813	.64272	33.797	27.171	.422	1448.5
290.0	-.699	.64607	33.859	27.217	.431	1449.2
300.0	-.579	.64942	33.911	27.254	.439	1450.0
310.0	-.473	.65247	33.962	27.291	.447	1450.8
320.0	-.439	.65346	33.975	27.300	.454	1451.1
320.2	-.438	.65347	33.975	27.299	.454	1451.1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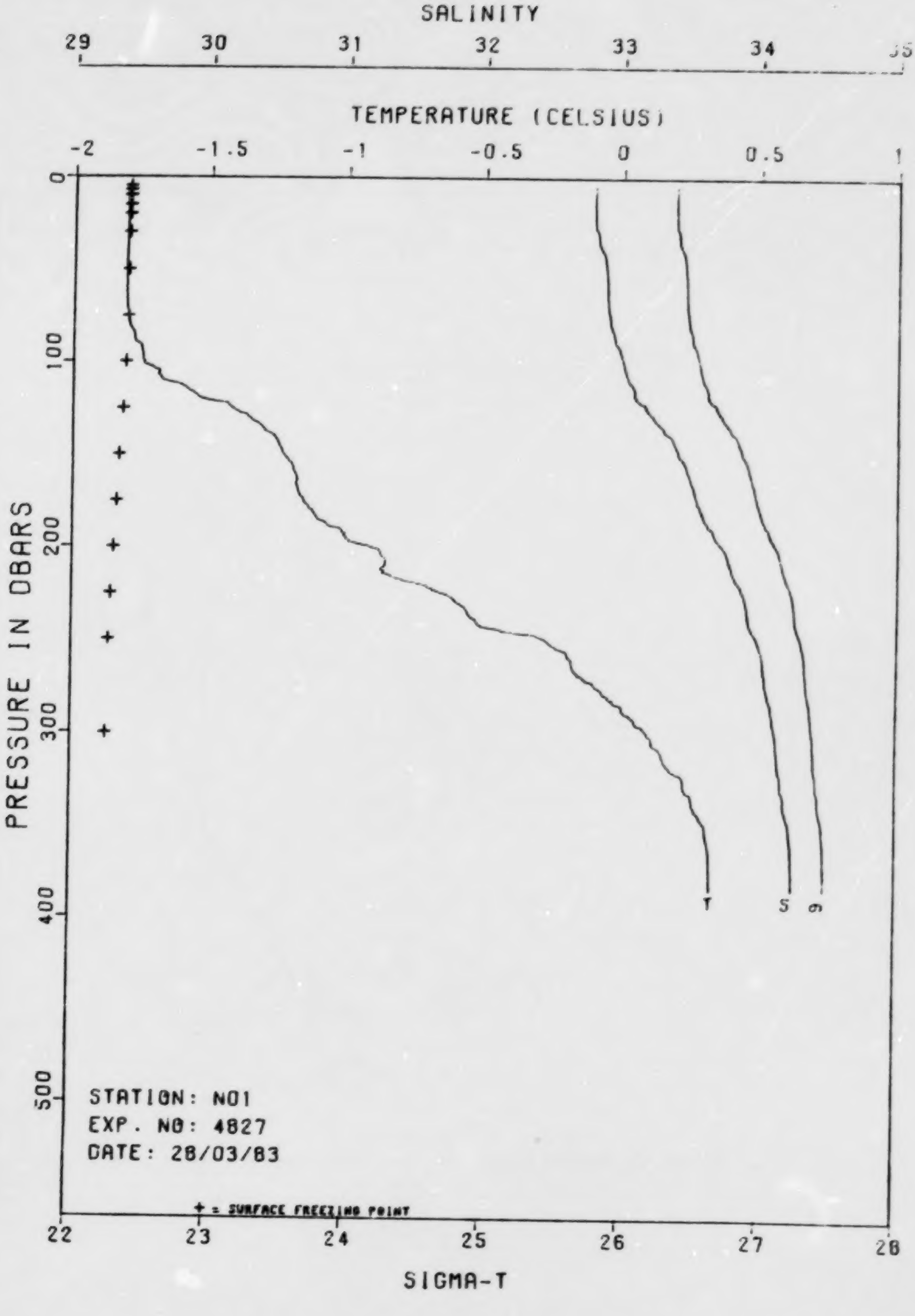
SIGMA-T


SALINITY
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PRESSURE IN DBARS
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STATION: NO1
EXP. NO: 4827
DATE: 28/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE N01   EXPERIMENT 4827

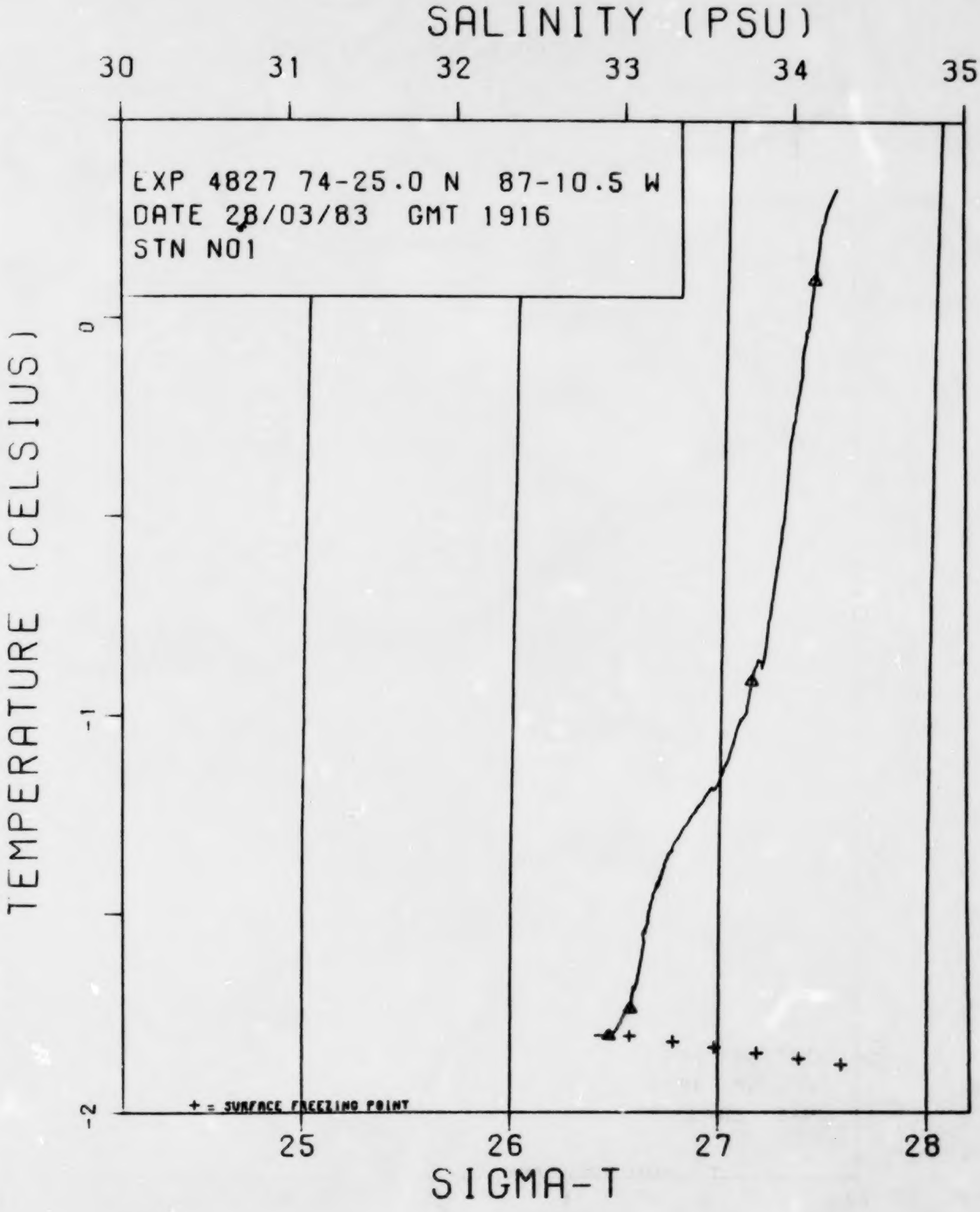
LAT.N. 74-25- 0   LON.W. 87-10-30   DATE 28/ 3/83   G.M.T. 1916

ICE THICKNESS   1.3 M   WATER DEPTH   336 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.806	.60397	32.793	26.386	.008	1437.9
5.0	-1.806	.60397	32.793	26.386	.008	1437.9
6.0	-1.807	.60398	32.793	26.386	.010	1437.9
7.0	-1.806	.60399	32.792	26.386	.011	1437.9
8.0	-1.806	.60399	32.791	26.385	.013	1437.9
9.0	-1.806	.60399	32.791	26.385	.015	1437.9
10.0	-1.805	.60400	32.790	26.384	.016	1437.9
11.0	-1.806	.60402	32.791	26.385	.018	1438.0
12.0	-1.805	.60401	32.790	26.384	.020	1438.0
13.0	-1.805	.60402	32.789	26.384	.021	1438.0
14.0	-1.805	.60403	32.789	26.383	.023	1438.0
15.0	-1.806	.60404	32.790	26.384	.024	1438.0
16.0	-1.805	.60407	32.791	26.385	.026	1438.0
17.0	-1.806	.60408	32.791	26.385	.028	1438.1
18.0	-1.805	.60408	32.790	26.384	.029	1438.1
19.0	-1.805	.60410	32.790	26.384	.031	1438.1
20.0	-1.805	.60412	32.791	26.385	.033	1438.1
21.0	-1.806	.60413	32.791	26.385	.034	1438.1
22.0	-1.805	.60413	32.790	26.384	.036	1438.1
23.0	-1.805	.60416	32.791	26.385	.037	1438.2
24.0	-1.806	.60419	32.793	26.387	.039	1438.2
25.0	-1.805	.60421	32.792	26.386	.041	1438.2
27.5	-1.805	.60427	32.794	26.388	.045	1438.2
30.0	-1.806	.60462	32.816	26.405	.049	1438.3
32.5	-1.805	.60467	32.816	26.405	.053	1438.4
35.0	-1.806	.60474	32.819	26.408	.057	1438.4
37.5	-1.807	.60494	32.830	26.417	.061	1438.4
40.0	-1.808	.60532	32.853	26.435	.065	1438.5
42.5	-1.808	.60553	32.865	26.445	.069	1438.6
45.0	-1.807	.60561	32.867	26.447	.073	1438.6
47.5	-1.808	.60573	32.872	26.451	.077	1438.7
50.0	-1.808	.60578	32.874	26.453	.081	1438.7
55.0	-1.807	.60593	32.879	26.457	.088	1438.8
60.0	-1.808	.60603	32.882	26.459	.096	1438.9
65.0	-1.808	.60610	32.864	26.460	.104	1439.0
70.0	-1.805	.60626	32.887	26.463	.112	1439.1
75.0	-1.799	.60662	32.899	26.473	.119	1439.2
80.0	-1.796	.60690	32.909	26.490	.127	1439.3
85.0	-1.777	.60773	32.934	26.501	.135	1439.5
90.0	-1.763	.60832	32.951	26.514	.142	1439.7
95.0	-1.748	.60916	32.981	26.538	.150	1439.9
100.0	-1.736	.60975	33.002	26.555	.157	1440.0
105.0	-1.685	.61110	33.020	26.568	.164	1440.4
110.0	-1.672	.61178	33.043	26.587	.172	1440.6

SITE N01 EXPERIMENT 4827

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.580	.61421	33.083	26.617	.179	1441.1
120.0	-1.530	.61549	33.100	26.629	.186	1441.5
125.0	-1.416	.61903	33.179	26.690	.192	1442.2
130.0	-1.358	.62098	33.226	26.727	.199	1442.6
135.0	-1.309	.62308	33.292	26.779	.205	1443.0
140.0	-1.266	.62503	33.356	26.829	.212	1443.4
145.0	-1.247	.62587	33.381	26.850	.217	1443.6
150.0	-1.233	.62662	33.406	26.869	.223	1443.8
155.0	-1.203	.62805	33.454	26.907	.229	1444.1
160.0	-1.190	.62874	33.477	26.925	.235	1444.3
165.0	-1.187	.62917	33.496	26.941	.240	1444.4
170.0	-1.178	.62983	33.521	26.961	.246	1444.6
175.0	-1.158	.63055	33.538	26.974	.251	1444.8
180.0	-1.127	.63179	33.572	27.001	.256	1445.0
185.0	-1.107	.63259	33.594	27.017	.261	1445.2
190.0	-1.023	.63520	33.649	27.059	.266	1445.8
195.0	-1.004	.63610	33.677	27.082	.271	1446.0
200.0	-.909	.63891	33.732	27.122	.276	1446.6
210.0	-.861	.64084	33.785	27.163	.285	1447.1
220.0	-.724	.64473	33.851	27.211	.294	1448.0
230.0	-.590	.64826	33.899	27.245	.302	1448.8
240.0	-.525	.64996	33.918	27.257	.310	1449.3
250.0	-.269	.65624	33.987	27.302	.318	1450.7
260.0	-.182	.65869	34.024	27.328	.325	1451.4
270.0	-.135	.65998	34.039	27.337	.332	1451.8
280.0	-.046	.66229	34.066	27.355	.339	1452.4
290.0	.032	.66446	34.096	27.375	.346	1452.9
300.0	.099	.66627	34.118	27.389	.353	1453.4
310.0	.147	.66758	34.134	27.399	.360	1453.8
320.0	.186	.66868	34.146	27.407	.367	1454.2
330.0	.233	.67003	34.164	27.419	.373	1454.6
340.0	.272	.67136	34.189	27.437	.379	1455.0
350.0	.311	.67293	34.228	27.467	.386	1455.4
360.0	.321	.67336	34.236	27.472	.392	1455.6
370.0	.328	.67376	34.246	27.480	.398	1455.8
380.0	.329	.67394	34.248	27.482	.404	1456.0
384.4	.329	.67401	34.250	27.483	.406	1456.1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DATE 28/03/83 GMT 1916
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+ = SURFACE FREEZING POINT
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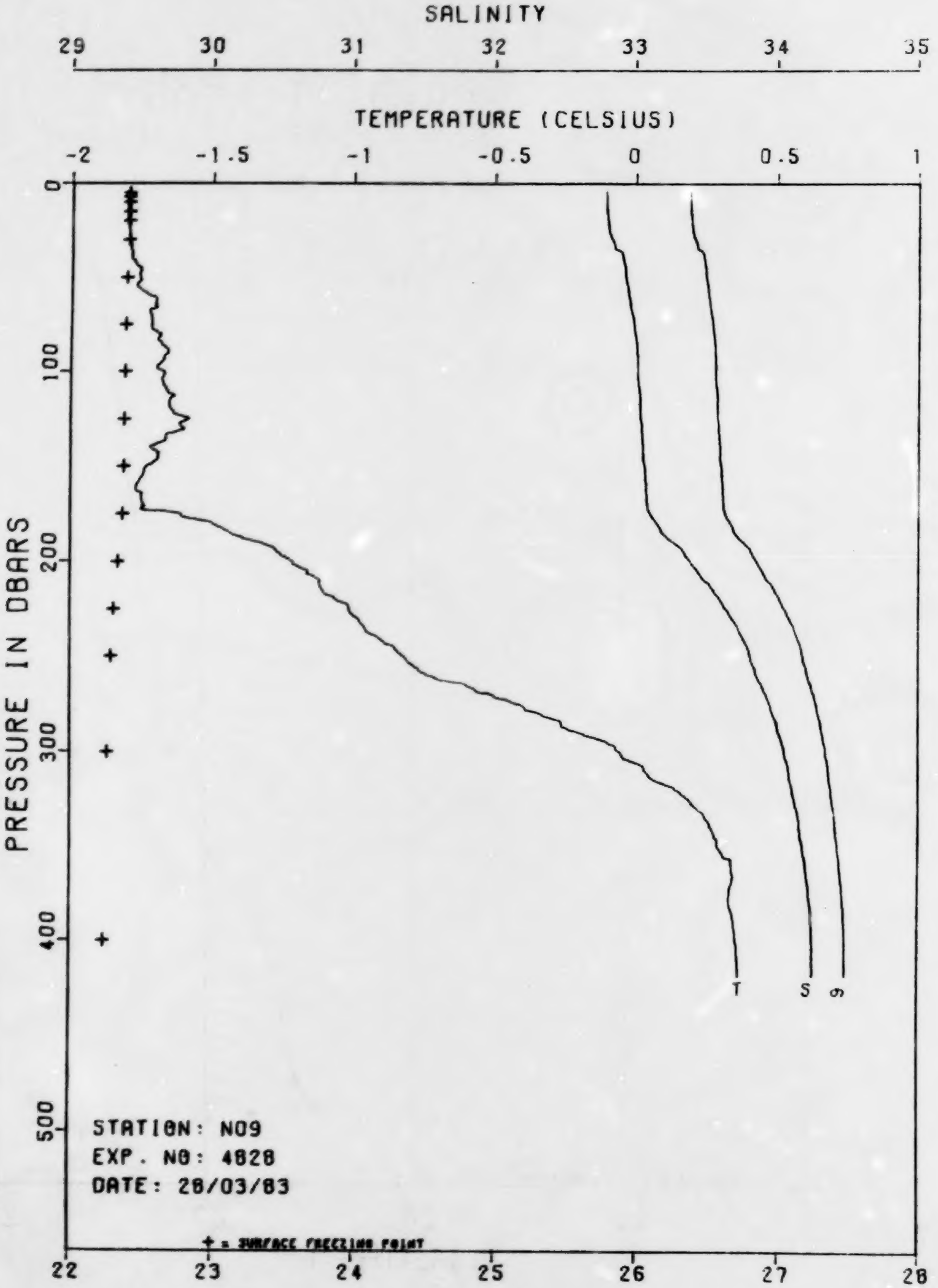
SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: N09
EXP. NO: 4828
DATE: 28/03/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE N09 EXPERIMENT 4828

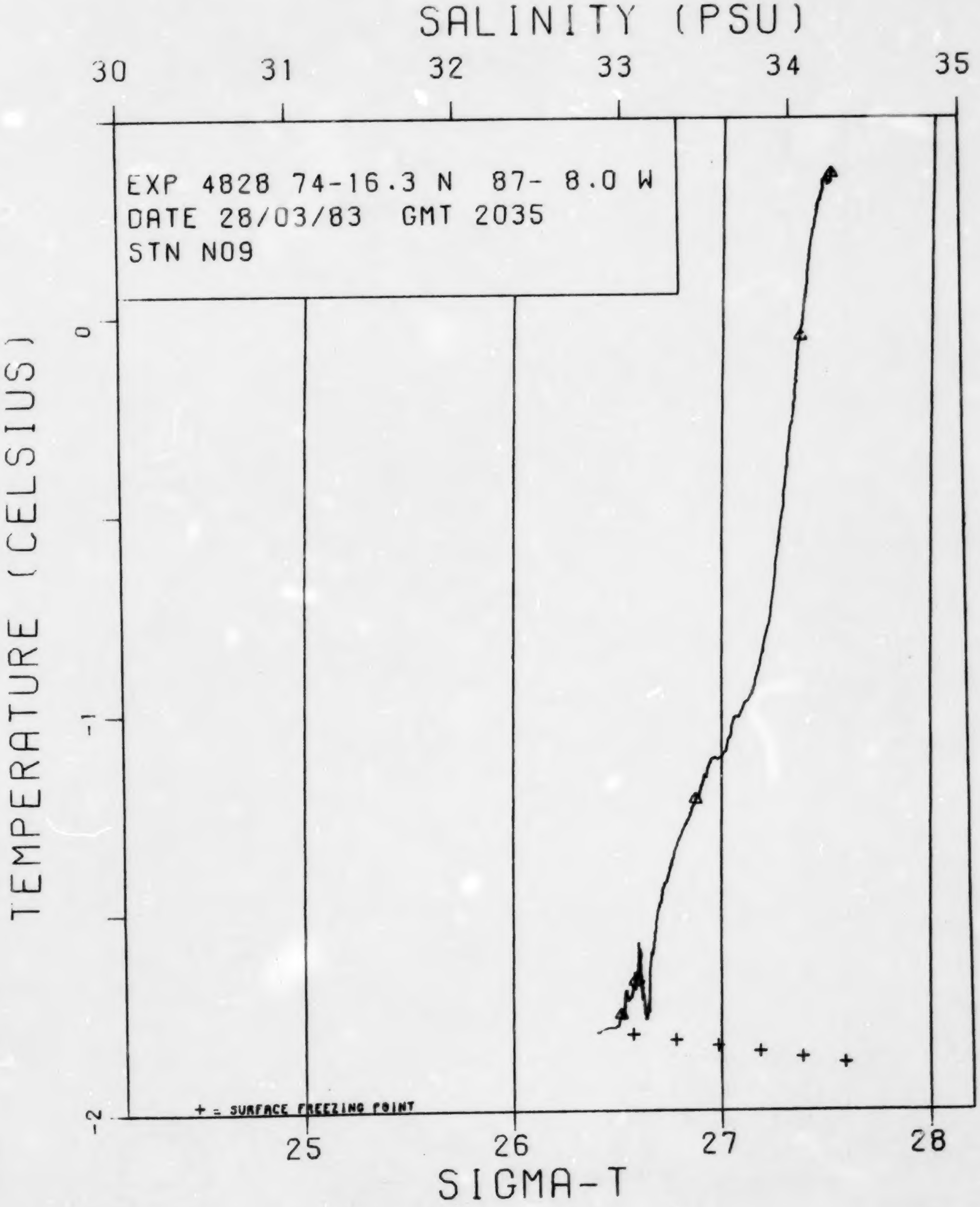
LAT.N. 74-16-17 LON.W. 87- 8- 0 DATE 28/ 3/83 G.M.T. 2035

ICE THICKNESS 1.5 M WATER DEPTH 417 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN,M)	SOUND (M/S)
4.4	-1.804	.60392	32.787	26.381	.007	1437.9
5.0	-1.804	.60397	32.789	26.384	.008	1437.9
6.0	-1.803	.60388	32.783	26.379	.010	1437.9
7.0	-1.803	.60400	32.789	26.383	.011	1437.9
8.0	-1.803	.60401	32.790	26.384	.013	1437.9
9.0	-1.803	.60403	32.790	26.384	.015	1437.9
10.0	-1.803	.60407	32.792	26.386	.016	1438.0
11.0	-1.803	.60404	32.789	26.384	.018	1438.0
12.0	-1.803	.60407	32.791	26.385	.020	1438.0
13.0	-1.803	.60404	32.788	26.382	.021	1438.0
14.0	-1.803	.60400	32.785	26.380	.023	1438.0
15.0	-1.803	.60409	32.790	26.384	.024	1438.0
16.0	-1.803	.60412	32.791	26.385	.026	1438.1
17.0	-1.804	.60422	32.797	26.390	.028	1438.1
18.0	-1.803	.60422	32.796	26.389	.029	1438.1
19.0	-1.804	.60425	32.797	26.390	.031	1438.1
20.0	-1.804	.60427	32.798	26.391	.033	1438.1
21.0	-1.803	.60432	32.800	26.392	.034	1438.1
22.0	-1.804	.60435	32.802	26.394	.036	1438.2
23.0	-1.799	.60450	32.805	26.396	.037	1438.2
24.0	-1.799	.60453	32.806	26.397	.039	1438.2
25.0	-1.797	.60461	32.808	26.399	.041	1438.3
27.5	-1.795	.60487	32.820	26.409	.045	1438.3
30.0	-1.794	.60514	32.833	26.419	.049	1438.4
32.5	-1.791	.60547	32.847	26.431	.053	1438.5
35.0	-1.793	.60563	32.858	26.439	.057	1438.5
37.5	-1.786	.60655	32.904	26.476	.061	1438.6
40.0	-1.789	.60660	32.908	26.480	.064	1438.7
42.5	-1.774	.60705	32.917	26.486	.068	1438.8
45.0	-1.754	.60752	32.922	26.490	.072	1438.9
47.5	-1.762	.60748	32.926	26.494	.076	1439.0
50.0	-1.760	.60757	32.927	26.495	.080	1439.0
55.0	-1.769	.60769	32.942	26.507	.087	1439.1
60.0	-1.719	.60881	32.950	26.512	.095	1439.4
65.0	-1.701	.60936	32.960	26.520	.102	1439.6
70.0	-1.720	.60939	32.979	26.536	.110	1439.6
75.0	-1.714	.60964	32.985	26.540	.117	1439.7
80.0	-1.684	.61045	32.996	26.549	.125	1440.0
85.0	-1.679	.61076	33.006	26.557	.132	1440.1
90.0	-1.654	.61134	33.010	26.560	.139	1440.3
95.0	-1.681	.61093	33.012	26.562	.146	1440.2
100.0	-1.673	.61115	33.013	26.562	.154	1440.4
105.0	-1.675	.61120	33.016	26.565	.161	1440.4
110.0	-1.661	.61171	33.027	26.573	.168	1440.6

SITE N09 EXPERIMENT 4626

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.651	.61211	33.036	26.581	.175	1440.7
120.0	-1.647	.61222	33.035	26.580	.183	1440.8
125.0	-1.579	.61350	33.033	26.576	.190	1441.2
130.0	-1.600	.61331	33.042	26.584	.197	1441.2
135.0	-1.666	.61223	33.048	26.591	.204	1441.0
140.0	-1.716	.61147	33.055	26.597	.211	1440.9
145.0	-1.692	.61196	33.055	26.597	.218	1441.1
150.0	-1.735	.61139	33.066	26.607	.225	1441.0
155.0	-1.747	.61129	33.069	26.610	.232	1441.0
160.0	-1.769	.61093	33.070	26.611	.239	1441.0
165.0	-1.747	.61154	33.079	26.618	.246	1441.2
170.0	-1.741	.61181	33.084	26.622	.253	1441.3
175.0	-1.610	.61472	33.109	26.638	.260	1442.0
180.0	-1.497	.61760	33.151	26.670	.267	1442.7
185.0	-1.431	.61959	33.192	26.701	.274	1443.2
190.0	-1.326	.62307	33.277	26.767	.280	1443.8
195.0	-1.268	.62526	33.338	26.815	.286	1444.3
200.0	-1.216	.62717	33.389	26.855	.292	1444.7
210.0	-1.117	.63076	33.483	26.928	.304	1445.4
220.0	-1.062	.63383	33.595	27.017	.314	1446.0
230.0	-.982	.63694	33.680	27.083	.324	1446.7
240.0	-.908	.63977	33.757	27.143	.334	1447.3
250.0	-.819	.64249	33.809	27.181	.342	1448.0
260.0	-.735	.64498	33.853	27.214	.351	1448.6
270.0	-.506	.65077	33.926	27.263	.359	1449.9
280.0	-.333	.65505	33.972	27.292	.367	1450.9
290.0	-.194	.65862	34.016	27.321	.374	1451.8
300.0	-.051	.66214	34.050	27.342	.382	1452.7
310.0	.034	.66444	34.081	27.362	.389	1453.3
320.0	.146	.66728	34.111	27.381	.396	1454.0
330.0	.221	.66939	34.142	27.402	.402	1454.5
340.0	.266	.67068	34.158	27.413	.409	1454.9
350.0	.291	.67170	34.182	27.431	.415	1455.2
360.0	.341	.67319	34.205	27.446	.422	1455.6
370.0	.342	.67354	34.218	27.456	.428	1455.8
380.0	.334	.67385	34.238	27.473	.434	1456.0
390.0	.351	.67444	34.246	27.479	.440	1456.2
400.0	.357	.67479	34.253	27.484	.446	1456.4
418.6	.366	.67510	34.250	27.481	.457	1456.8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EXP 4828 74-16.3 N 87- 8.0 W
DATE 28/03/83 GMT 2035
STN N09
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+ = SURFACE FREEZING POINT
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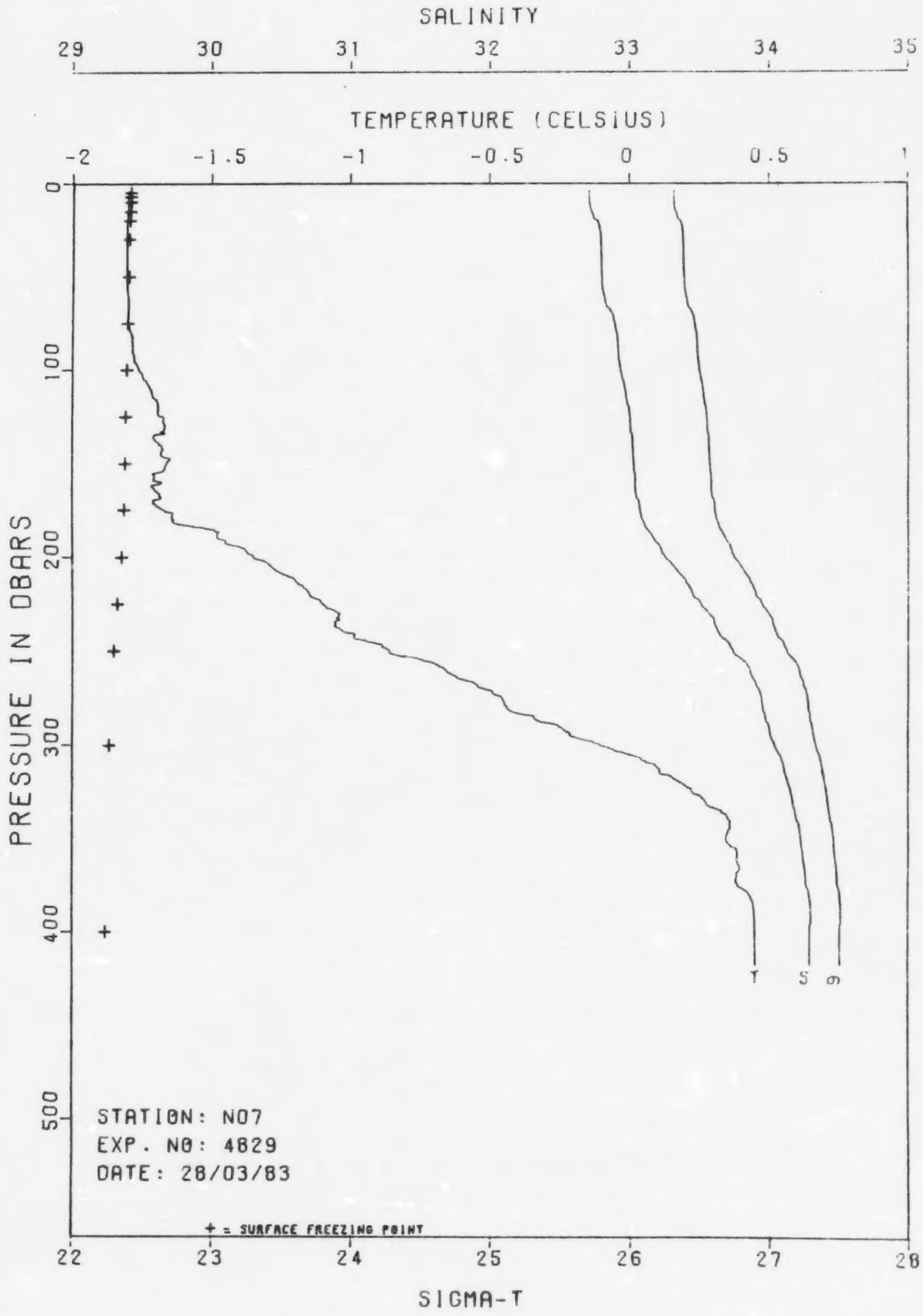
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: N07
EXP. NO: 4829
DATE: 28/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE N07 EXPERIMENT 4829

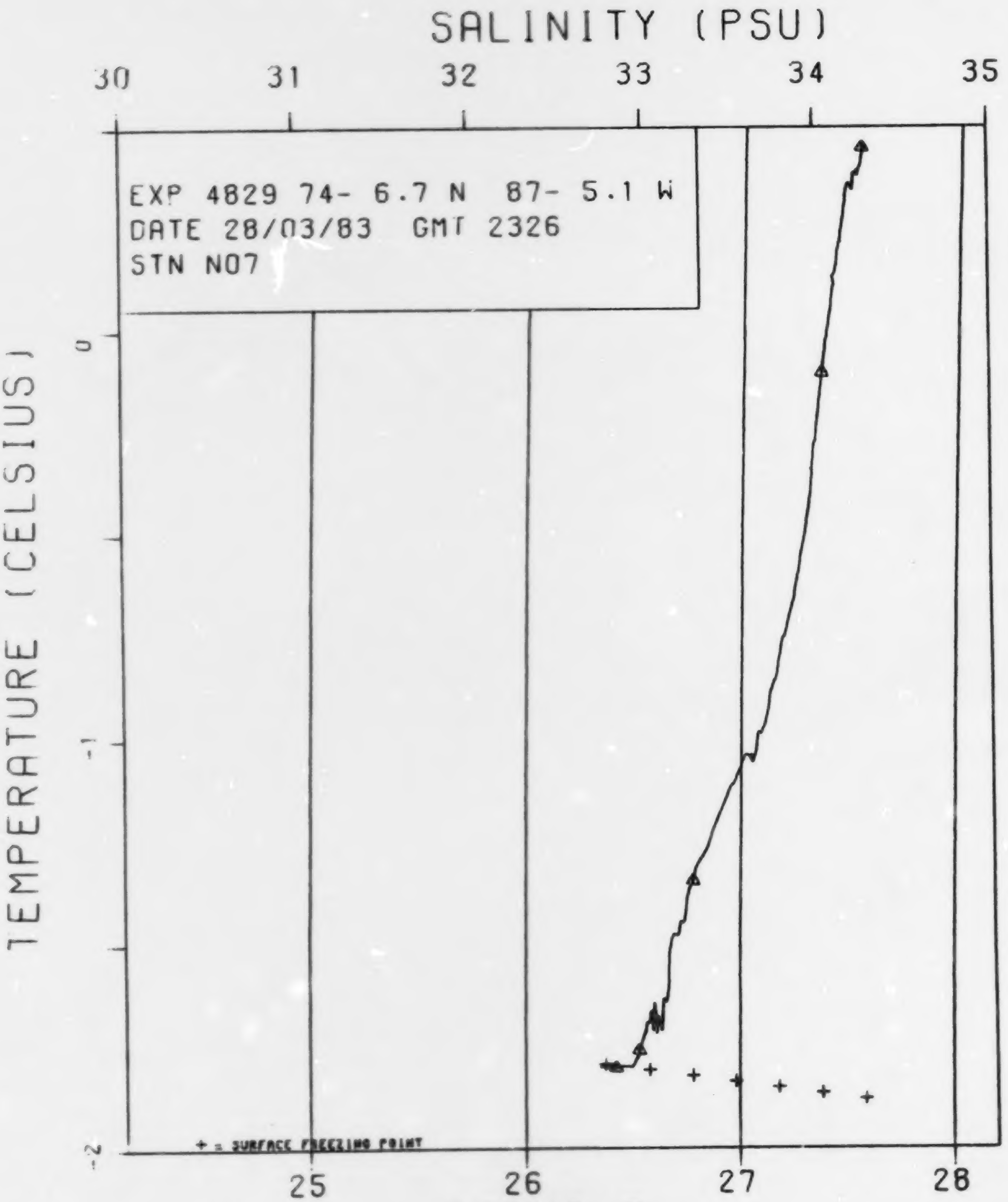
LAT.N. 74- 6-41 LON.W. 87- 5- 6 DATE 28/ 3/83 G.M.T. 2326

ICE THICKNESS 1.1 M WATER DEPTH 417 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.2	-1.801	.60274	32.714	26.322	.007	1437.8
5.0	-1.801	.60274	32.713	26.322	.008	1437.8
6.0	-1.802	.60277	32.715	26.323	.010	1437.8
7.0	-1.801	.60274	32.712	26.321	.012	1437.8
8.0	-1.802	.60280	32.715	26.323	.014	1437.8
9.0	-1.801	.60282	32.716	26.324	.014	1437.8
10.0	-1.801	.60283	32.715	26.323	.015	1437.8
11.0	-1.801	.60282	32.714	26.322	.017	1437.9
12.0	-1.802	.60292	32.721	26.328	.019	1437.9
13.0	-1.801	.60298	32.723	26.329	.020	1437.9
14.0	-1.802	.60301	32.724	26.331	.022	1437.9
15.0	-1.802	.60312	32.730	26.336	.024	1437.9
16.0	-1.802	.60327	32.739	26.343	.025	1438.0
17.0	-1.802	.60334	32.743	26.346	.027	1438.0
18.0	-1.803	.60340	32.746	26.348	.029	1438.0
19.0	-1.803	.60347	32.750	26.352	.030	1438.0
20.0	-1.804	.60371	32.765	26.364	.032	1438.0
21.0	-1.804	.60399	32.782	26.378	.034	1438.1
22.0	-1.804	.60403	32.783	26.379	.035	1438.1
23.0	-1.804	.60410	32.786	26.381	.037	1438.1
24.0	-1.805	.60415	32.790	26.385	.039	1438.2
25.0	-1.804	.60419	32.790	26.384	.040	1438.2
27.5	-1.805	.60428	32.795	26.389	.042	1438.2
30.0	-1.805	.60434	32.797	26.390	.046	1438.2
32.5	-1.806	.60437	32.798	26.391	.050	1438.3
35.0	-1.805	.60441	32.799	26.391	.054	1438.3
37.5	-1.805	.60445	32.799	26.392	.058	1438.4
40.0	-1.806	.60449	32.801	26.393	.062	1438.4
42.5	-1.805	.60453	32.801	26.393	.066	1438.5
45.0	-1.805	.60456	32.801	26.393	.070	1438.5
47.5	-1.805	.60461	32.803	26.395	.074	1438.5
50.0	-1.804	.60469	32.804	26.396	.078	1438.6
55.0	-1.803	.60481	32.808	26.399	.082	1438.6
60.0	-1.801	.60510	32.820	26.408	.090	1438.7
65.0	-1.798	.60543	32.834	26.420	.098	1438.8
70.0	-1.800	.60621	32.878	26.456	.106	1438.9
75.0	-1.801	.60658	32.899	26.472	.114	1439.1
80.0	-1.792	.60703	32.912	26.483	.122	1439.2
85.0	-1.785	.60732	32.920	26.489	.130	1439.3
90.0	-1.783	.60747	32.922	26.491	.137	1439.5
95.0	-1.776	.60772	32.927	26.495	.145	1439.5
100.0	-1.762	.60827	32.940	26.505	.153	1439.7
105.0	-1.744	.60889	32.954	26.516	.160	1439.8
110.0	-1.720	.60967	32.971	26.529	.168	1440.0

SITE N07 EXPERIMENT 4679

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.711	.60999	32.977	26.534	.183	1440.4
120.0	-1.691	.61080	32.999	26.552	.190	1440.6
125.0	-1.681	.61113	33.005	26.556	.197	1440.7
130.0	-1.665	.61158	33.012	26.561	.205	1440.9
135.0	-1.707	.61102	33.021	26.570	.212	1440.8
140.0	-1.685	.61153	33.024	26.571	.219	1441.0
145.0	-1.682	.61169	33.027	26.574	.226	1441.1
150.0	-1.663	.61218	33.032	26.576	.233	1441.3
155.0	-1.690	.61178	33.035	26.581	.241	1441.2
160.0	-1.681	.61210	33.042	26.586	.248	1441.3
165.0	-1.695	.61192	33.043	26.588	.255	1441.4
170.0	-1.712	.61210	33.070	26.609	.262	1441.4
175.0	-1.671	.61299	33.074	26.612	.269	1441.7
180.0	-1.641	.61389	33.091	26.625	.276	1441.9
185.0	-1.509	.61697	33.124	26.648	.283	1442.7
190.0	-1.481	.61836	33.171	26.686	.290	1443.0
195.0	-1.390	.62099	33.223	26.725	.296	1443.6
200.0	-1.346	.62248	33.258	26.753	.303	1443.9
210.0	-1.226	.62681	33.373	26.842	.315	1444.8
220.0	-1.145	.62987	33.455	26.906	.326	1445.4
230.0	-1.038	.63395	33.569	26.995	.337	1446.3
240.0	-1.022	.63553	33.637	27.050	.347	1446.6
250.0	-.856	.64066	33.745	27.131	.357	1447.7
260.0	-.657	.64667	33.864	27.219	.366	1448.9
270.0	-.520	.65043	33.921	27.260	.374	1449.8
280.0	-.437	.65274	33.956	27.284	.381	1450.4
290.0	-.250	.65724	33.999	27.310	.389	1451.5
300.0	-.103	.66092	34.039	27.336	.396	1452.4
310.0	.084	.66577	34.101	27.376	.404	1453.5
320.0	.183	.66842	34.134	27.398	.410	1454.2
330.0	.272	.67091	34.170	27.422	.417	1454.8
340.0	.354	.67311	34.198	27.440	.423	1455.4
350.0	.343	.67353	34.226	27.463	.429	1455.5
360.0	.386	.67475	34.242	27.473	.435	1455.9
370.0	.382	.67510	34.260	27.488	.441	1456.1
380.0	.428	.67662	34.268	27.508	.447	1456.5
390.0	.446	.67724	34.298	27.515	.453	1456.7
400.0	.447	.67722	34.290	27.508	.458	1456.9
418.2	.449	.67743	34.289	27.508	.469	1457.2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EXP 4829 74- 6.7 N 87- 5.1 W
DATE 28/03/83 GMT 2326
STN N07
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+ = SURFACE FREEZING POINT
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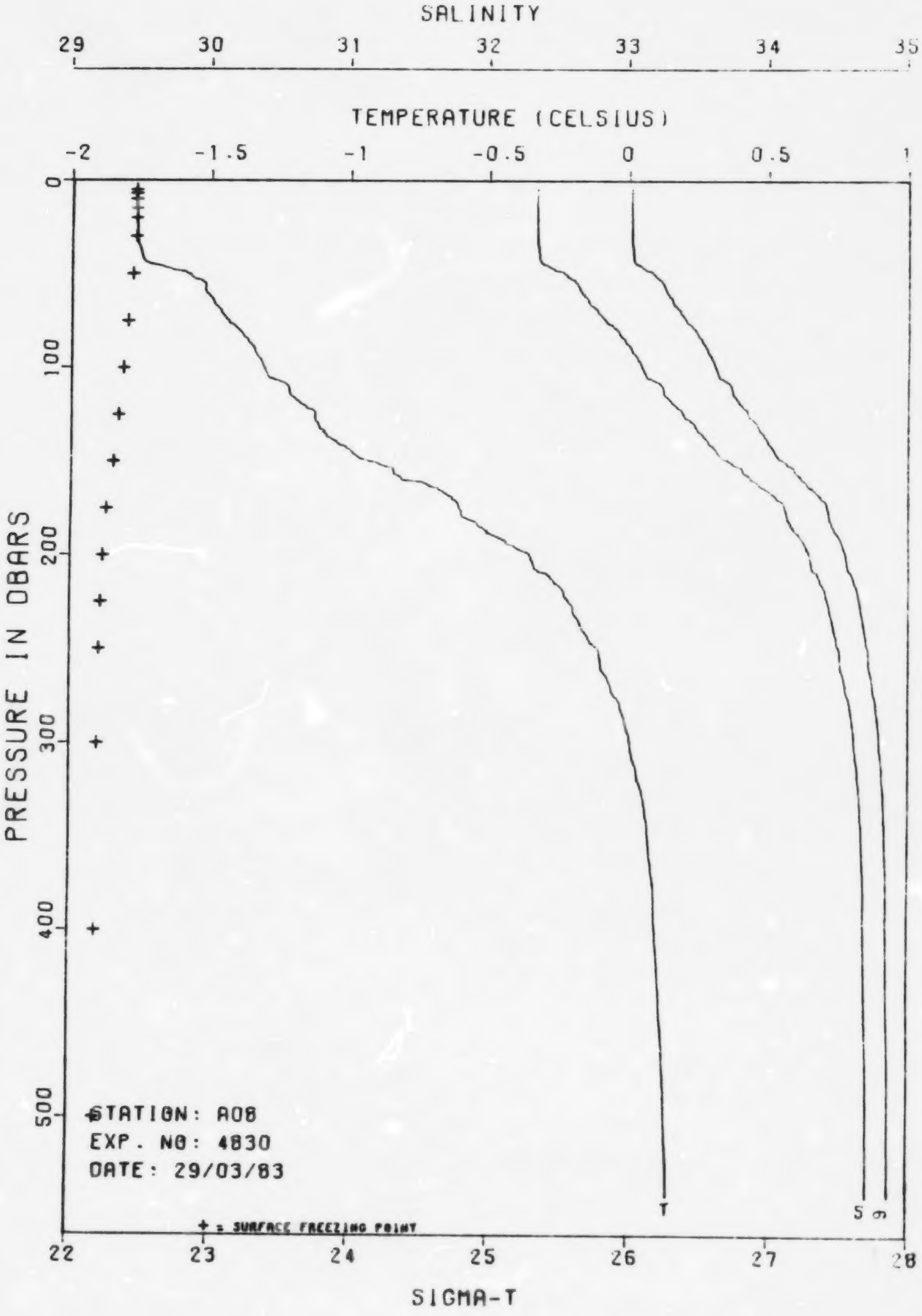
SIGMA-T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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
STATION: A08
EXP. NO: 4830
DATE: 29/03/83
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+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A08 EXPERIMENT 4830

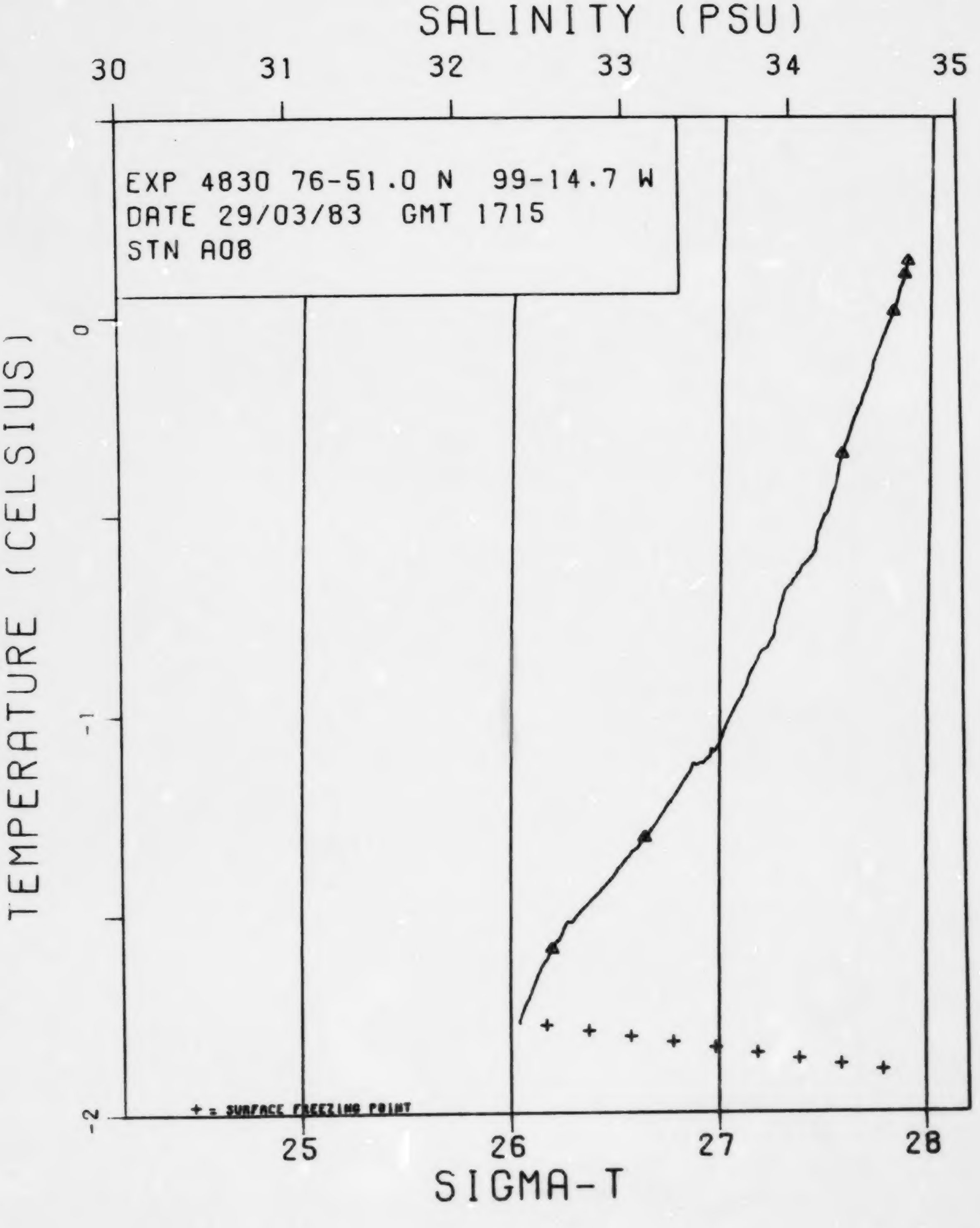
LAT.N. 76-51- 0 LON.W. 99-14-42 DATE 29/ 3/83 G.M.T. 1715

ICE THICKNESS 1.6 M WATER DEPTH 540 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.774	.59697	32.341	26.018	.009	1437.4
5.0	-1.774	.59699	32.340	26.018	.010	1437.4
6.0	-1.772	.59700	32.339	26.017	.012	1437.4
7.0	-1.773	.59700	32.339	26.017	.014	1437.4
8.0	-1.772	.59702	32.339	26.017	.016	1437.4
9.0	-1.772	.59702	32.338	26.016	.018	1437.5
10.0	-1.772	.59703	32.338	26.016	.020	1437.5
11.0	-1.772	.59704	32.338	26.016	.022	1437.5
12.0	-1.770	.59705	32.336	26.014	.024	1437.5
13.0	-1.771	.59705	32.336	26.014	.026	1437.5
14.0	-1.770	.59705	32.335	26.013	.028	1437.5
15.0	-1.770	.59713	32.339	26.017	.030	1437.6
16.0	-1.769	.59716	32.338	26.016	.032	1437.6
17.0	-1.769	.59715	32.337	26.015	.034	1437.6
18.0	-1.768	.59719	32.338	26.016	.036	1437.6
19.0	-1.769	.59720	32.339	26.017	.038	1437.6
20.0	-1.768	.59721	32.339	26.016	.040	1437.6
21.0	-1.768	.59724	32.339	26.017	.042	1437.7
22.0	-1.768	.59724	32.339	26.017	.044	1437.7
23.0	-1.767	.59727	32.339	26.017	.046	1437.7
24.0	-1.767	.59727	32.338	26.016	.048	1437.7
25.0	-1.767	.59731	32.340	26.017	.049	1437.7
27.5	-1.767	.59734	32.340	26.018	.054	1437.8
30.0	-1.766	.59738	32.340	26.018	.059	1437.8
32.5	-1.765	.59744	32.342	26.019	.064	1437.9
35.0	-1.760	.59767	32.348	26.024	.069	1437.9
37.5	-1.752	.59785	32.349	26.024	.074	1438.0
40.0	-1.749	.59806	32.356	26.030	.079	1438.1
42.5	-1.746	.59818	32.358	26.032	.084	1438.2
45.0	-1.718	.59917	32.385	26.053	.089	1438.4
47.5	-1.645	.60183	32.461	26.113	.094	1438.9
50.0	-1.583	.60435	32.541	26.177	.098	1439.3
55.0	-1.525	.60684	32.621	26.241	.107	1439.8
60.0	-1.521	.60764	32.661	26.273	.116	1439.9
65.0	-1.491	.60912	32.713	26.314	.125	1440.2
70.0	-1.464	.61078	32.778	26.366	.133	1440.5
75.0	-1.438	.61227	32.835	26.412	.141	1440.8
80.0	-1.399	.61447	32.918	26.476	.149	1441.2
85.0	-1.368	.61602	32.973	26.522	.156	1441.5
90.0	-1.344	.61730	33.018	26.557	.164	1441.8
95.0	-1.326	.61845	33.063	26.594	.171	1442.0
100.0	-1.309	.61939	33.096	26.620	.178	1442.2
105.0	-1.293	.62023	33.125	26.643	.185	1442.4
110.0	-1.220	.62365	33.242	26.736	.192	1443.0

SITE AP8 EXPERIMENT 4672

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.212	.62409	33.256	26.747	.198	1443.1
120.0	-1.168	.62617	33.326	26.802	.204	1443.5
125.0	-1.122	.62819	33.390	26.853	.210	1443.9
130.0	-1.111	.62973	33.465	26.913	.216	1444.1
135.0	-1.092	.63104	33.517	26.955	.222	1444.4
140.0	-1.044	.63287	33.568	26.994	.227	1444.8
145.0	-.992	.63493	33.627	27.040	.232	1445.2
150.0	-.931	.63754	33.707	27.103	.237	1445.6
155.0	-.841	.64112	33.812	27.184	.242	1446.3
160.0	-.809	.64287	33.875	27.235	.246	1446.6
165.0	-.678	.64716	33.974	27.309	.250	1447.4
170.0	-.630	.64957	34.056	27.374	.253	1447.9
175.0	-.606	.65106	34.113	27.418	.257	1448.1
180.0	-.586	.65181	34.130	27.431	.260	1448.3
185.0	-.529	.65354	34.162	27.455	.263	1448.7
190.0	-.473	.65569	34.220	27.499	.266	1449.2
195.0	-.406	.65780	34.263	27.532	.269	1449.6
200.0	-.351	.65947	34.294	27.553	.271	1450.0
210.0	-.288	.66175	34.348	27.594	.276	1450.5
220.0	-.228	.66400	34.403	27.636	.281	1451.0
230.0	-.195	.66536	34.437	27.662	.285	1451.4
240.0	-.162	.66663	34.467	27.684	.289	1451.7
250.0	-.104	.66851	34.503	27.710	.293	1452.2
260.0	-.096	.66897	34.514	27.719	.297	1452.4
270.0	-.059	.67042	34.549	27.745	.300	1452.8
280.0	-.026	.67178	34.582	27.770	.304	1453.2
290.0	-.009	.67254	34.600	27.784	.307	1453.5
300.0	.009	.67322	34.614	27.794	.310	1453.7
310.0	.023	.67387	34.628	27.805	.313	1454.0
320.0	.037	.67449	34.641	27.814	.315	1454.2
330.0	.057	.67523	34.654	27.824	.318	1454.5
340.0	.065	.67557	34.659	27.827	.321	1454.7
350.0	.073	.67600	34.669	27.835	.323	1454.9
360.0	.079	.67630	34.673	27.836	.326	1455.1
370.0	.088	.67668	34.678	27.842	.328	1455.3
380.0	.095	.67703	34.684	27.846	.331	1455.5
390.0	.097	.67721	34.686	27.847	.333	1455.7
400.0	.100	.67739	34.687	27.848	.336	1455.9
425.0	.110	.67795	34.693	27.852	.342	1456.3
450.0	.119	.67845	34.695	27.854	.348	1456.8
475.0	.128	.67902	34.703	27.860	.354	1457.3
500.0	.133	.67946	34.707	27.862	.359	1457.7
525.0	.141	.67995	34.711	27.866	.365	1458.2
541.7	.142	.68014	34.711	27.865	.369	1458.4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EXP 4830 76-51.0 N 99-14.7 W
DATE 29/03/83 GMT 1715
STN A08
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+ = SURFACE FREEZING POINT
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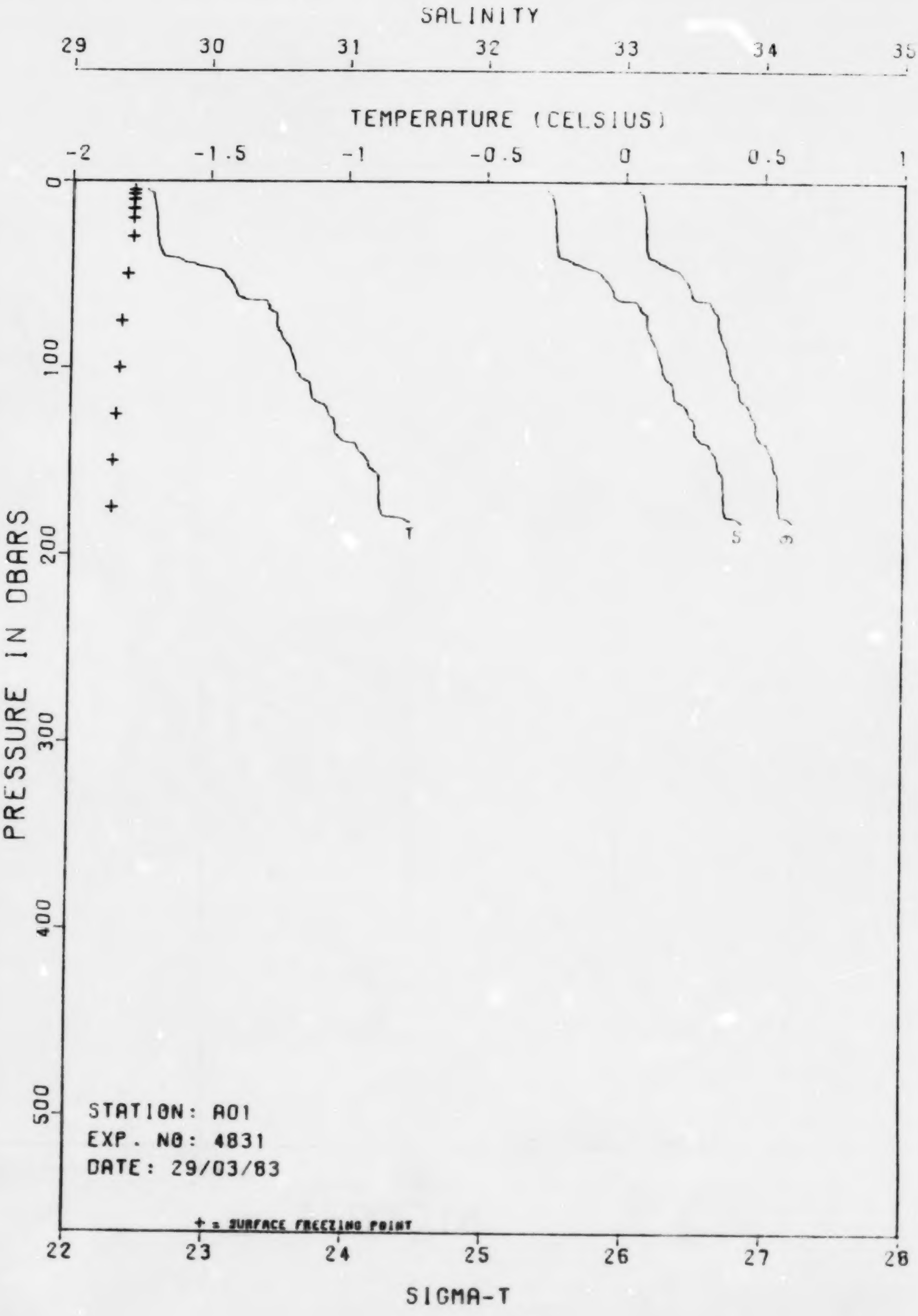
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A01
EXP. NO: 4831
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A01 EXPERIMENT 4831

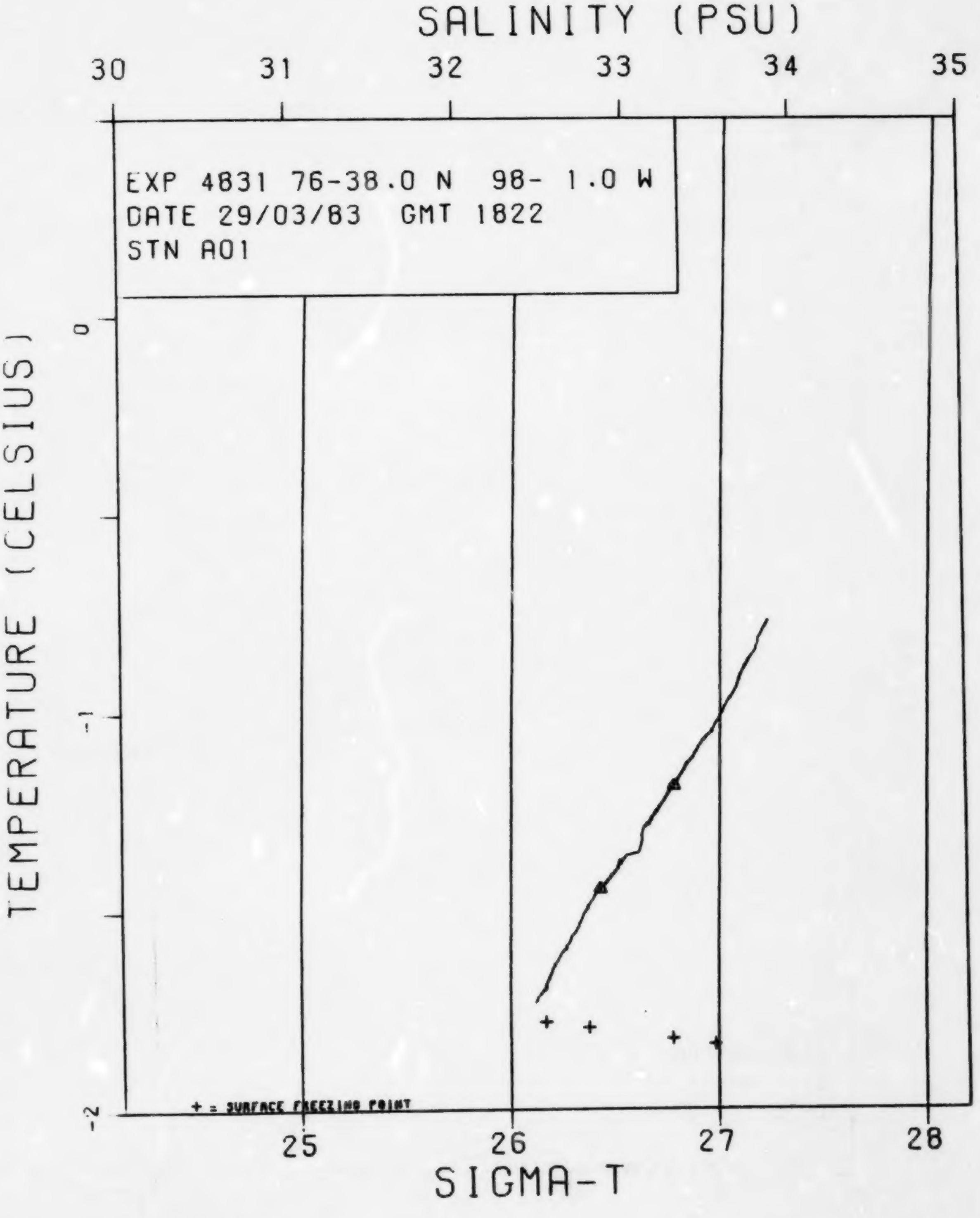
LAT.N. 76-38- 0 LON.W. 98- 1- 0 DATE 29/ 3/83 G.M.T. 1822

ICE THICKNESS 1.5 M WATER DEPTH 183 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.731	.59937	32.435	26.094	.009	1437.7
5.0	-1.730	.59944	32.439	26.097	.010	1437.7
6.0	-1.724	.59967	32.445	26.102	.012	1437.8
7.0	-1.706	.60046	32.472	26.123	.013	1437.9
8.0	-1.706	.60047	32.472	26.123	.015	1437.9
9.0	-1.707	.60046	32.471	26.123	.017	1437.9
10.0	-1.704	.60065	32.479	26.129	.019	1438.0
11.0	-1.703	.60075	32.483	26.132	.021	1438.0
12.0	-1.701	.60081	32.484	26.133	.023	1438.0
13.0	-1.701	.60083	32.464	26.133	.025	1438.1
14.0	-1.699	.60089	32.486	26.135	.027	1438.1
15.0	-1.699	.60096	32.488	26.137	.028	1438.1
16.0	-1.697	.60102	32.490	26.138	.030	1438.1
17.0	-1.697	.60106	32.492	26.139	.032	1438.2
18.0	-1.694	.60116	32.494	26.141	.034	1438.2
19.0	-1.694	.60120	32.495	26.142	.036	1438.2
20.0	-1.693	.60125	32.496	26.143	.038	1438.2
21.0	-1.693	.60126	32.497	26.143	.040	1438.2
22.0	-1.694	.60123	32.495	26.142	.041	1438.3
23.0	-1.694	.60127	32.497	26.143	.043	1438.3
24.0	-1.694	.60128	32.497	26.143	.045	1438.3
25.0	-1.693	.60133	32.498	26.145	.047	1438.3
27.5	-1.691	.60141	32.499	26.145	.052	1438.4
30.0	-1.690	.60142	32.497	26.144	.056	1438.4
32.5	-1.687	.60155	32.500	26.146	.061	1438.5
35.0	-1.685	.60161	32.500	26.146	.066	1438.5
37.5	-1.678	.60193	32.509	26.153	.070	1438.6
40.0	-1.671	.60231	32.523	26.164	.075	1438.7
42.5	-1.602	.60487	32.598	26.224	.079	1439.2
45.0	-1.551	.60720	32.678	26.287	.084	1439.6
47.5	-1.468	.61061	32.786	26.373	.088	1440.2
50.0	-1.446	.61171	32.825	26.404	.092	1440.4
55.0	-1.421	.61318	32.881	26.449	.100	1440.6
60.0	-1.402	.61416	32.916	26.476	.108	1440.9
65.0	-1.289	.61931	33.091	26.615	.115	1441.7
70.0	-1.273	.62074	33.125	26.642	.122	1441.9
75.0	-1.255	.62117	33.157	26.668	.129	1442.1
80.0	-1.251	.62142	33.163	26.673	.136	1442.2
85.0	-1.229	.62241	33.195	26.698	.142	1442.5
90.0	-1.203	.62355	33.230	26.725	.149	1442.7
95.0	-1.193	.62413	33.250	26.742	.155	1442.9
100.0	-1.187	.62455	33.264	26.752	.162	1443.0
105.0	-1.173	.62519	33.283	26.767	.168	1443.2
110.0	-1.135	.62696	33.341	26.813	.174	1443.5

SITE AD1   EXPERIMENT 4871

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.127	.62735	33.353	26.822	.180	1443.7
120.0	-1.080	.62961	33.429	26.883	.186	1444.1
125.0	-1.066	.63041	33.457	26.905	.192	1444.3
130.0	-1.046	.63152	33.497	26.937	.196	1444.5
135.0	-1.045	.63163	33.499	26.939	.203	1444.6
140.0	-.968	.63490	33.601	27.019	.209	1445.2
145.0	-.950	.63582	33.632	27.043	.214	1445.4
150.0	-.922	.63693	33.661	27.066	.219	1445.6
155.0	-.904	.63763	33.679	27.079	.223	1445.8
160.0	-.886	.63835	33.699	27.094	.228	1446.0
165.0	-.884	.63858	33.706	27.101	.233	1446.1
170.0	-.888	.63848	33.702	27.097	.238	1446.2
175.0	-.882	.63873	33.707	27.101	.242	1446.3
180.0	-.802	.64196	33.802	27.175	.247	1446.9
182.4	-.770	.64334	33.845	27.206	.249	1447.1


SALINITY (PSU)
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32
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35
EXP 4831 76-38.0 N 98- 1.0 W
DATE 29/03/83 GMT 1822
STN A01
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
25
26
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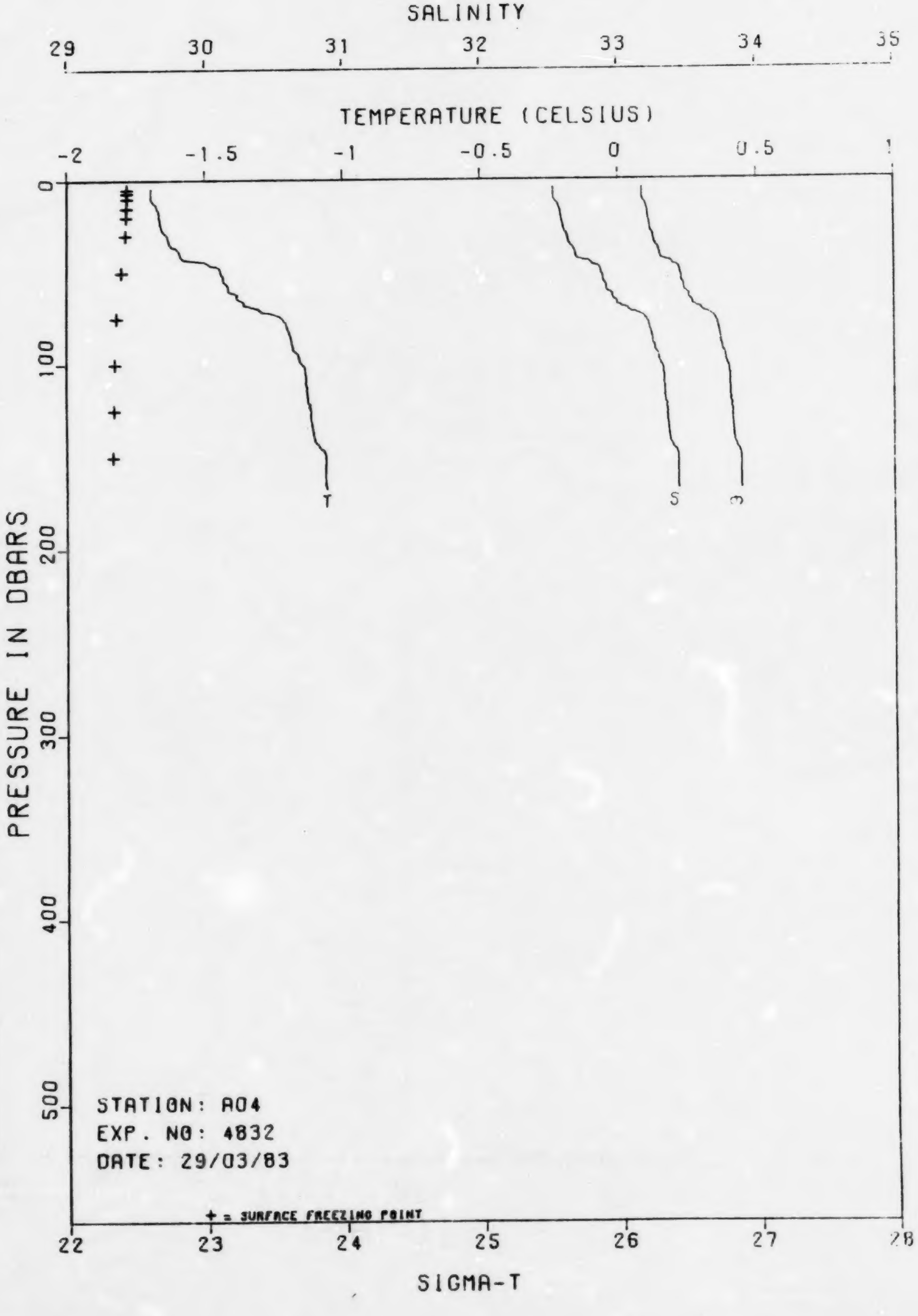
28
SIGMA-T


SALINITY
29
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31
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35
TEMPERATURE (CELSIUS)
-2
-1.5
-1
-0.5
0
0.5
1
PRESSURE IN DBARS
0
100
200
300
400
500
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STATION: A04
EXP. NO: 4832
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A04 EXPERIMENT 4832

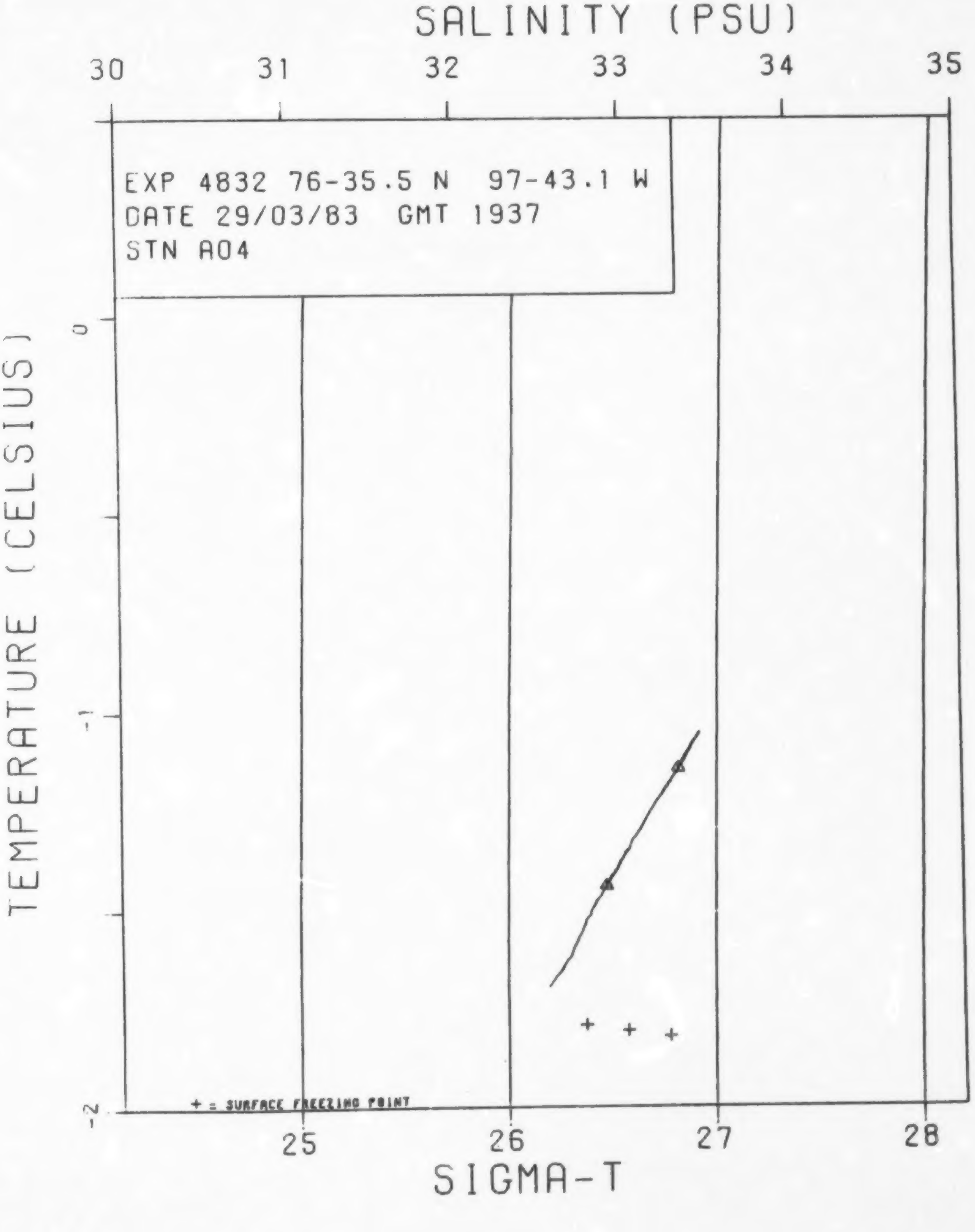
LAT.N. 76-35-30 LON.W. 97-43- 5 DATE 29/ 3/83 G.M.T. 1937

ICE THICKNESS 1.3 M WATER DEPTH 166 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.695	.60163	32.531	26.171	.008	1438.0
5.0	-1.696	.60168	32.534	26.174	.009	1438.0
6.0	-1.695	.60169	32.534	26.173	.011	1438.0
7.0	-1.696	.60170	32.534	26.174	.013	1438.1
8.0	-1.696	.60170	32.534	26.174	.015	1438.1
9.0	-1.695	.60174	32.534	26.174	.017	1438.1
10.0	-1.696	.60174	32.534	26.174	.018	1438.1
11.0	-1.693	.60182	32.536	26.175	.020	1438.1
12.0	-1.687	.60215	32.548	26.185	.022	1438.2
13.0	-1.680	.60253	32.562	26.196	.024	1438.3
14.0	-1.674	.60278	32.570	26.202	.026	1438.3
15.0	-1.673	.60282	32.571	26.204	.027	1438.3
16.0	-1.671	.60296	32.576	26.207	.029	1438.4
17.0	-1.665	.60322	32.585	26.214	.031	1438.4
18.0	-1.665	.60327	32.587	26.216	.033	1438.5
19.0	-1.665	.60331	32.588	26.217	.035	1438.5
20.0	-1.664	.60334	32.589	26.217	.036	1438.5
21.0	-1.663	.60344	32.593	26.221	.038	1438.5
22.0	-1.661	.60351	32.594	26.222	.040	1438.6
23.0	-1.660	.60361	32.599	26.225	.042	1438.6
24.0	-1.660	.60368	32.602	26.228	.044	1438.6
25.0	-1.657	.60375	32.603	26.229	.045	1438.6
27.5	-1.653	.60397	32.609	26.234	.050	1438.7
30.0	-1.636	.60460	32.627	26.248	.054	1438.8
32.5	-1.631	.60495	32.641	26.259	.059	1438.9
35.0	-1.625	.60520	32.647	26.264	.063	1439.0
37.5	-1.599	.60628	32.680	26.290	.067	1439.2
40.0	-1.590	.60671	32.695	26.302	.071	1439.3
42.5	-1.582	.60701	32.702	26.308	.076	1439.4
45.0	-1.491	.61043	32.803	26.388	.080	1440.0
47.5	-1.450	.61223	32.862	26.434	.084	1440.3
50.0	-1.441	.61270	32.879	26.448	.088	1440.5
55.0	-1.433	.61315	32.894	26.459	.096	1440.6
60.0	-1.413	.61402	32.920	26.480	.103	1440.8
65.0	-1.378	.61556	32.969	26.519	.111	1441.1
70.0	-1.305	.61877	33.074	26.602	.118	1441.7
75.0	-1.221	.62244	33.194	26.697	.125	1442.3
80.0	-1.200	.62350	33.229	26.725	.132	1442.6
85.0	-1.188	.62404	33.245	26.737	.138	1442.7
90.0	-1.182	.62451	33.262	26.751	.145	1442.9
95.0	-1.157	.62560	33.296	26.778	.151	1443.1
100.0	-1.146	.62615	33.312	26.790	.157	1443.3
105.0	-1.133	.62671	33.328	26.803	.163	1443.4
110.0	-1.131	.62692	33.335	26.808	.170	1443.5

SITE A04 EXPERIMENT 4632

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.130	.62700	33.335	26.809	.176	1443.6
120.0	-1.125	.62724	33.341	26.813	.182	1443.7
125.0	-1.114	.62782	33.359	26.827	.188	1443.9
130.0	-1.114	.62785	33.358	26.826	.194	1444.0
135.0	-1.107	.62819	33.367	26.833	.200	1444.1
140.0	-1.100	.62854	33.377	26.841	.206	1444.2
145.0	-1.081	.62936	33.401	26.860	.212	1444.4
150.0	-1.059	.63043	33.436	26.888	.218	1444.7
155.0	-1.059	.63047	33.435	26.887	.223	1444.7
160.0	-1.059	.63053	33.436	26.887	.229	1444.8
165.0	-1.060	.63057	33.435	26.887	.235	1444.9
167.8	-1.056	.63075	33.440	26.891	.238	1445.0


SALINITY (PSU)
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35
EXP 4832 76-35.5 N 97-43.1 W
DATE 29/03/83 GMT 1937
STN A04
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
25
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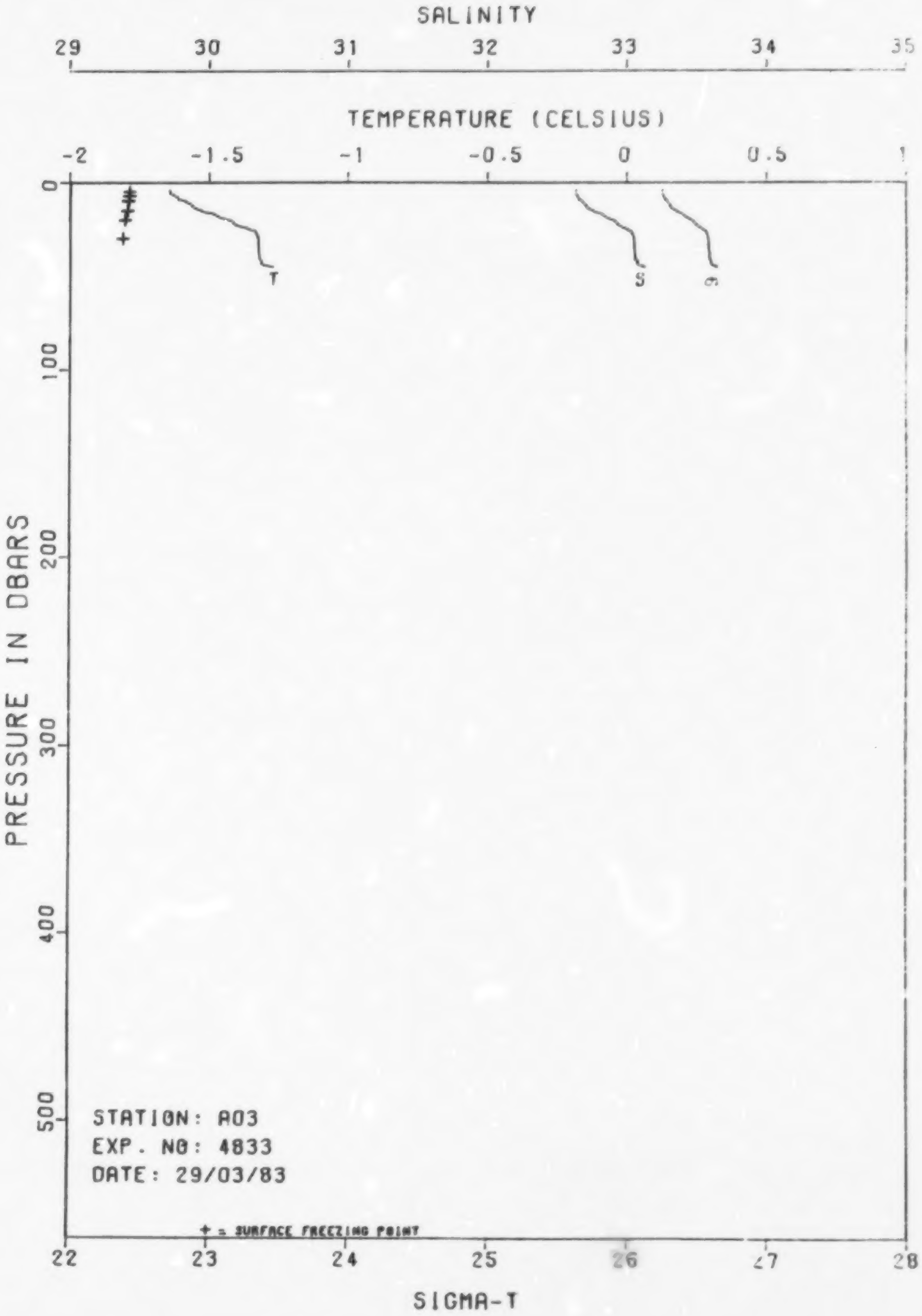
28
SIGMA-T


SALINITY
29
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33
34
35
TEMPERATURE (CELSIUS)
-2
-1.5
-1
-0.5
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PRESSURE IN DBARS
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STATION: A03
EXP. NO: 4833
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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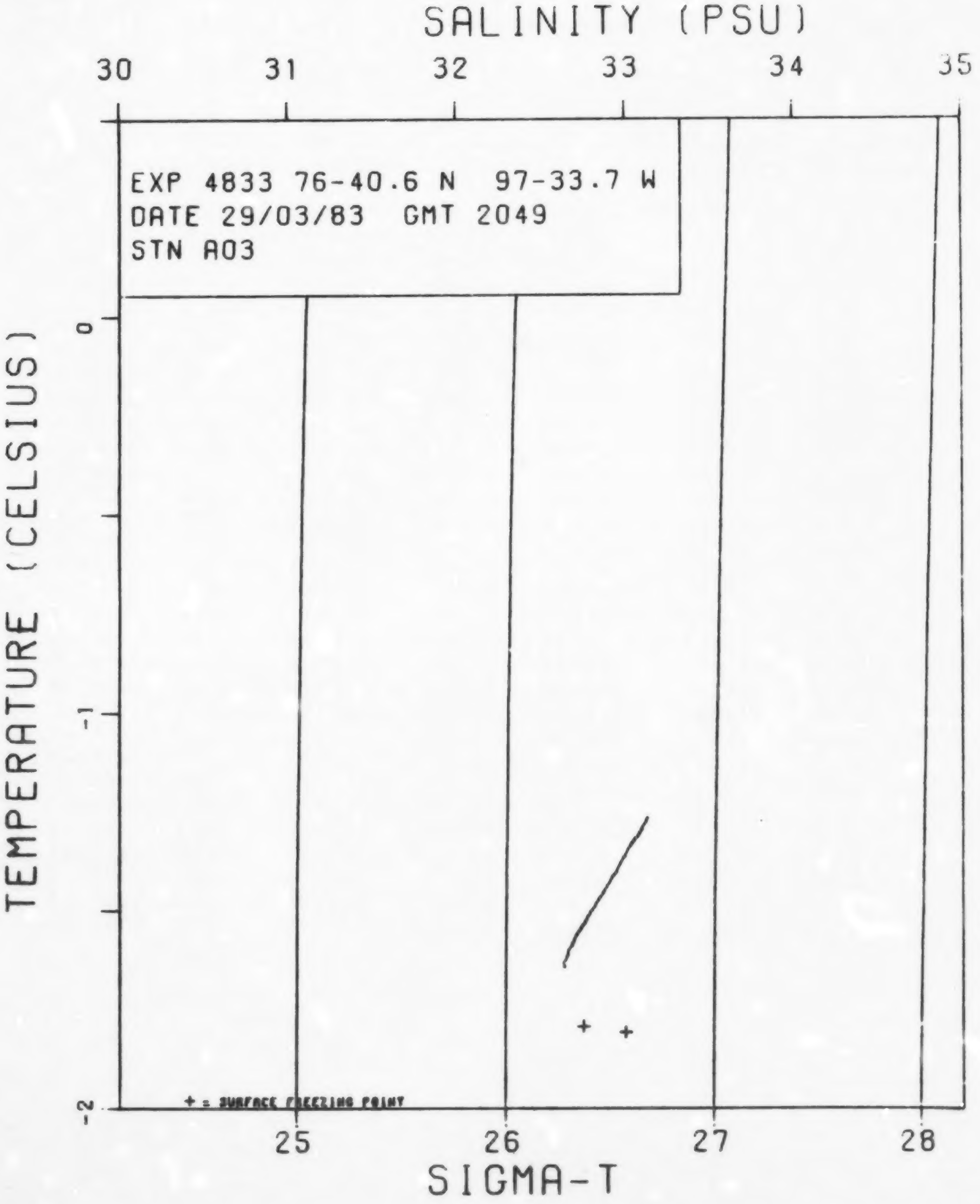
SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A03 EXPERIMENT 4833

LAT.N. 76-40-35 LON.W. 97-33-41 DATE 29/ 3/83 G.M.T. 2049

ICE THICKNESS .8 M WATER DEPTH 45 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.2	-1.644	.60431	32.635	26.254	.007	1438.4
5.0	-1.646	.60430	32.635	26.255	.009	1438.4
6.0	-1.643	.60437	32.635	26.254	.011	1438.4
7.0	-1.627	.60482	32.644	26.262	.012	1438.5
8.0	-1.614	.60518	32.650	26.266	.014	1438.6
9.0	-1.612	.60530	32.655	26.270	.016	1438.7
10.0	-1.585	.60628	32.683	26.292	.017	1438.8
11.0	-1.583	.60641	32.687	26.295	.019	1438.9
12.0	-1.563	.60706	32.704	26.308	.021	1439.0
13.0	-1.560	.60725	32.710	26.314	.023	1439.0
14.0	-1.553	.60759	32.722	26.323	.024	1439.1
15.0	-1.531	.60859	32.757	26.351	.026	1439.3
16.0	-1.524	.60894	32.769	26.360	.028	1439.3
17.0	-1.483	.61062	32.823	26.403	.029	1439.6
18.0	-1.473	.61105	32.836	26.414	.031	1439.7
19.0	-1.462	.61154	32.853	26.427	.032	1439.8
20.0	-1.433	.61276	32.894	26.459	.034	1440.0
21.0	-1.416	.61349	32.916	26.477	.036	1440.1
22.0	-1.413	.61376	32.928	26.486	.037	1440.2
23.0	-1.403	.61424	32.945	26.500	.039	1440.3
24.0	-1.384	.61495	32.965	26.516	.040	1440.4
25.0	-1.361	.61592	32.996	26.540	.042	1440.6
27.5	-1.332	.61715	33.035	26.571	.045	1440.8
30.0	-1.323	.61760	33.050	26.583	.049	1440.9
32.5	-1.323	.61766	33.051	26.584	.053	1441.0
35.0	-1.322	.61768	33.051	26.584	.056	1441.0
37.5	-1.321	.61777	33.052	26.585	.060	1441.1
40.0	-1.319	.61786	33.055	26.587	.063	1441.1
42.5	-1.309	.61842	33.075	26.603	.067	1441.2
45.0	-1.282	.61956	33.111	26.631	.070	1441.4
45.5	-1.265	.62026	33.134	26.649	.071	1441.6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35
EXP 4833 76-40.6 N 97-33.7 W
DATE 29/03/83 GMT 2049
STN A03
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
25
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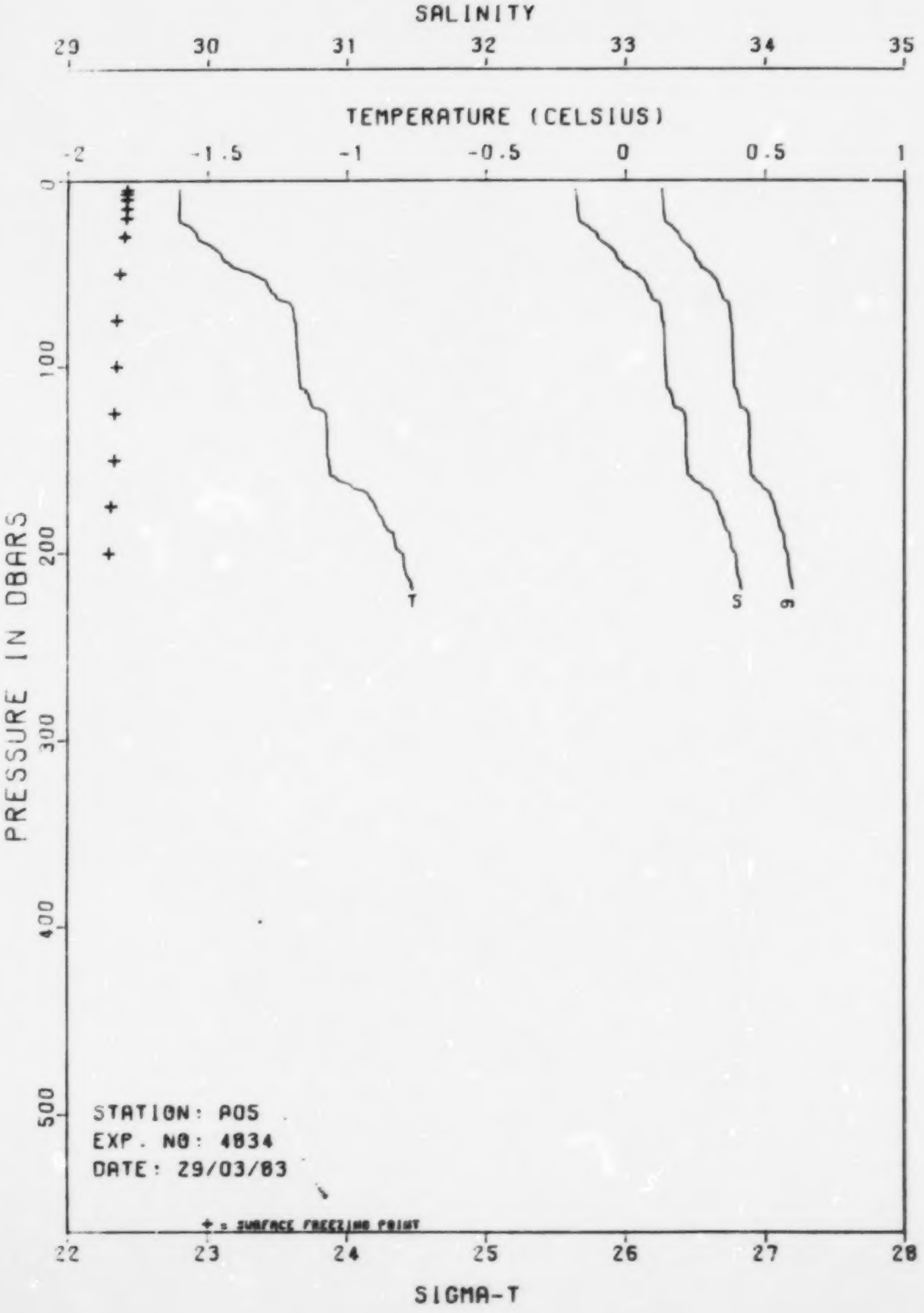
SIGMA-T


SALINITY
29
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
-2
-1.5
-1
-0.5
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PRESSURE IN DBARS
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STATION: A05
EXP. NO: 4834
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A75 EXPERIMENT 4834

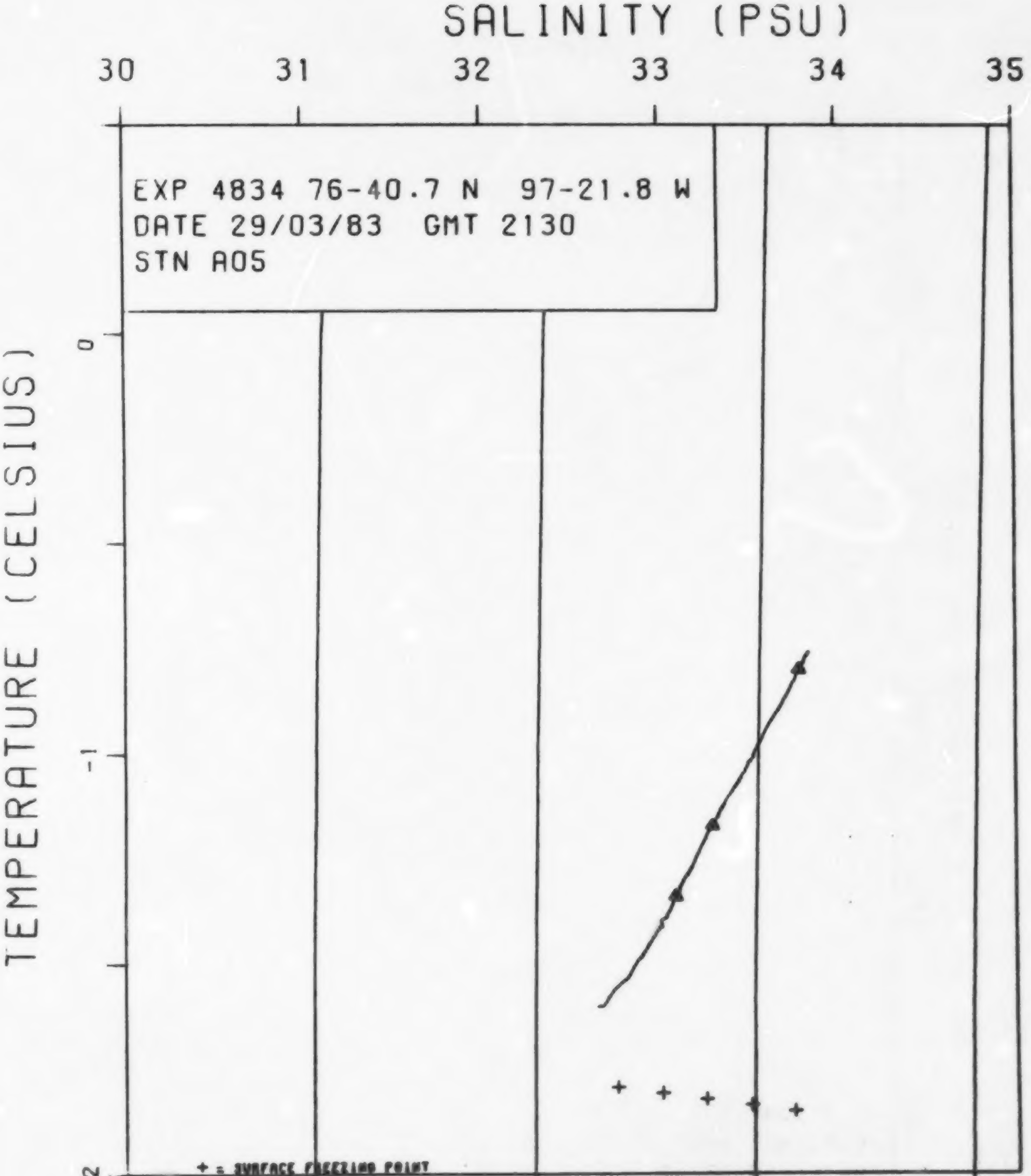
LAT.N. 76-40-41 LON.W. 97-21-47 DATE 29/ 3/83 G.M.T. 2130

ICE THICKNESS 1.0 M WATER DEPTH 221 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.604	.60514	32.639	26.257	.008	1438.6
5.0	-1.604	.60525	32.645	26.262	.009	1438.6
6.0	-1.603	.60527	32.645	26.262	.011	1438.6
7.0	-1.603	.60531	32.646	26.263	.012	1438.7
8.0	-1.602	.60533	32.646	26.263	.014	1438.7
9.0	-1.603	.60536	32.648	26.264	.016	1438.7
10.0	-1.601	.60533	32.644	26.261	.018	1438.7
11.0	-1.601	.60543	32.649	26.265	.019	1438.7
12.0	-1.601	.60551	32.653	26.269	.021	1438.8
13.0	-1.602	.60551	32.654	26.269	.023	1438.8
14.0	-1.603	.60552	32.655	26.270	.025	1438.8
15.0	-1.602	.60554	32.654	26.269	.026	1438.8
16.0	-1.602	.60556	32.655	26.270	.028	1438.8
17.0	-1.603	.60559	32.657	26.271	.030	1439.8
18.0	-1.604	.60563	32.660	26.274	.031	1438.8
19.0	-1.604	.60570	32.663	26.277	.033	1438.9
20.0	-1.604	.60573	32.665	26.278	.035	1438.9
21.0	-1.603	.60581	32.668	26.280	.037	1438.9
22.0	-1.601	.60589	32.670	26.282	.038	1438.9
23.0	-1.593	.60628	32.683	26.292	.040	1439.0
24.0	-1.575	.60705	32.708	26.313	.042	1439.2
25.0	-1.563	.60765	32.731	26.330	.044	1439.3
27.5	-1.548	.60858	32.767	26.359	.048	1439.4
30.0	-1.538	.60933	32.799	26.385	.052	1439.6
32.5	-1.529	.60982	32.816	26.399	.056	1439.7
35.0	-1.487	.61160	32.874	26.445	.060	1440.0
37.5	-1.472	.61240	32.903	26.468	.064	1440.1
40.0	-1.452	.61324	32.929	26.489	.068	1440.3
42.5	-1.447	.61355	32.941	26.498	.071	1440.4
45.0	-1.420	.61483	32.984	26.533	.075	1440.6
47.5	-1.396	.61551	32.997	26.542	.079	1440.8
50.0	-1.340	.61796	33.078	26.606	.082	1441.2
55.0	-1.287	.62011	33.142	26.657	.089	1441.6
60.0	-1.272	.62081	33.164	26.674	.096	1441.8
65.0	-1.224	.62272	33.220	26.718	.103	1442.2
70.0	-1.193	.62394	33.254	26.744	.109	1442.5
75.0	-1.188	.62422	33.261	26.750	.116	1442.6
80.0	-1.183	.62457	33.273	26.760	.122	1442.7
85.0	-1.180	.62478	33.279	26.764	.128	1442.8
90.0	-1.179	.62479	33.275	26.762	.135	1442.9
95.0	-1.175	.62501	33.281	26.766	.141	1443.0
100.0	-1.173	.62517	33.285	26.769	.147	1443.1
105.0	-1.170	.62533	33.289	26.772	.154	1443.2
110.0	-1.167	.62557	33.295	26.777	.160	1443.3

SITE ACS EXPERIMENT 4534

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.135	.62683	33.331	26.805	.166	1443.6
120.0	-1.131	.62712	33.340	26.813	.172	1443.7
125.0	-1.074	.62964	33.421	26.877	.178	1444.2
130.0	-1.072	.62983	33.427	26.881	.184	1444.3
135.0	-1.069	.63002	33.432	26.885	.190	1444.4
140.0	-1.069	.63005	33.430	26.883	.196	1444.5
145.0	-1.068	.63013	33.431	26.884	.201	1444.5
150.0	-1.064	.63038	33.438	26.890	.207	1444.6
155.0	-1.058	.63065	33.444	26.894	.213	1444.8
160.0	-1.039	.63154	33.472	26.917	.218	1445.0
165.0	-.977	.63413	33.552	26.979	.224	1445.5
170.0	-.917	.63664	33.628	27.028	.229	1445.9
175.0	-.897	.63768	33.662	27.065	.234	1446.2
180.0	-.881	.63837	33.682	27.081	.239	1446.3
185.0	-.863	.63925	33.709	27.102	.244	1446.5
190.0	-.828	.64070	33.751	27.135	.248	1446.8
195.0	-.824	.64091	33.757	27.139	.253	1447.0
200.0	-.802	.64174	33.778	27.155	.257	1447.2
210.0	-.788	.64249	33.799	27.172	.266	1447.4
219.8	-.760	.64378	33.836	27.201	.275	1447.8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35
EXP 4834 76-40.7 N 97-21.8 W
DATE 29/03/83 GMT 2130
STN A05
TEMPERATURE (CELSIUS)
0
-1
-2
+ = SURFACE FREEZING POINT
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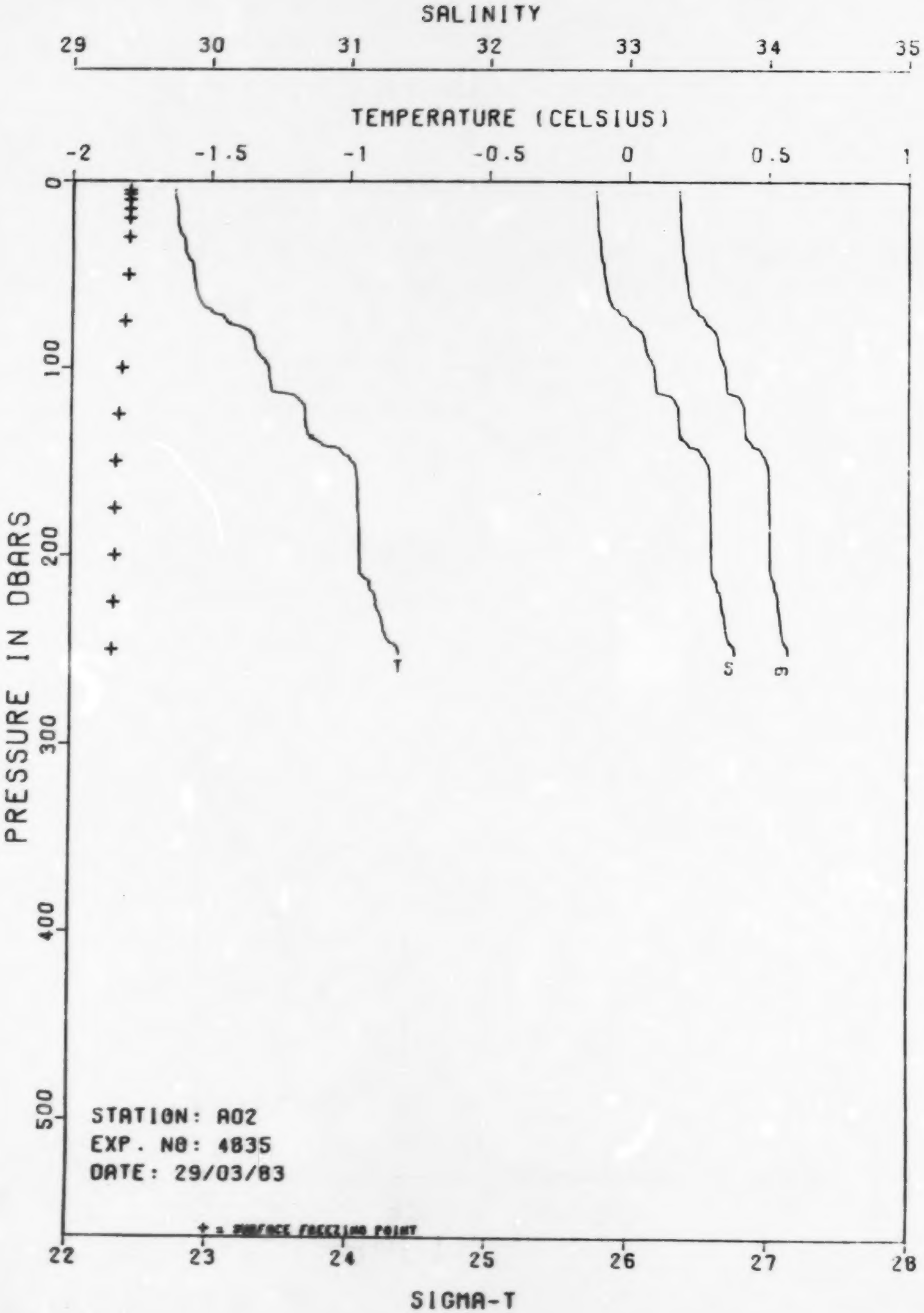
28
SIGMA-T


SALINITY
29
30
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32
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34
35
TEMPERATURE (CELSIUS)
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-1.5
-1
-0.5
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0.5
1
PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4835
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A02 EXPERIMENT 4835

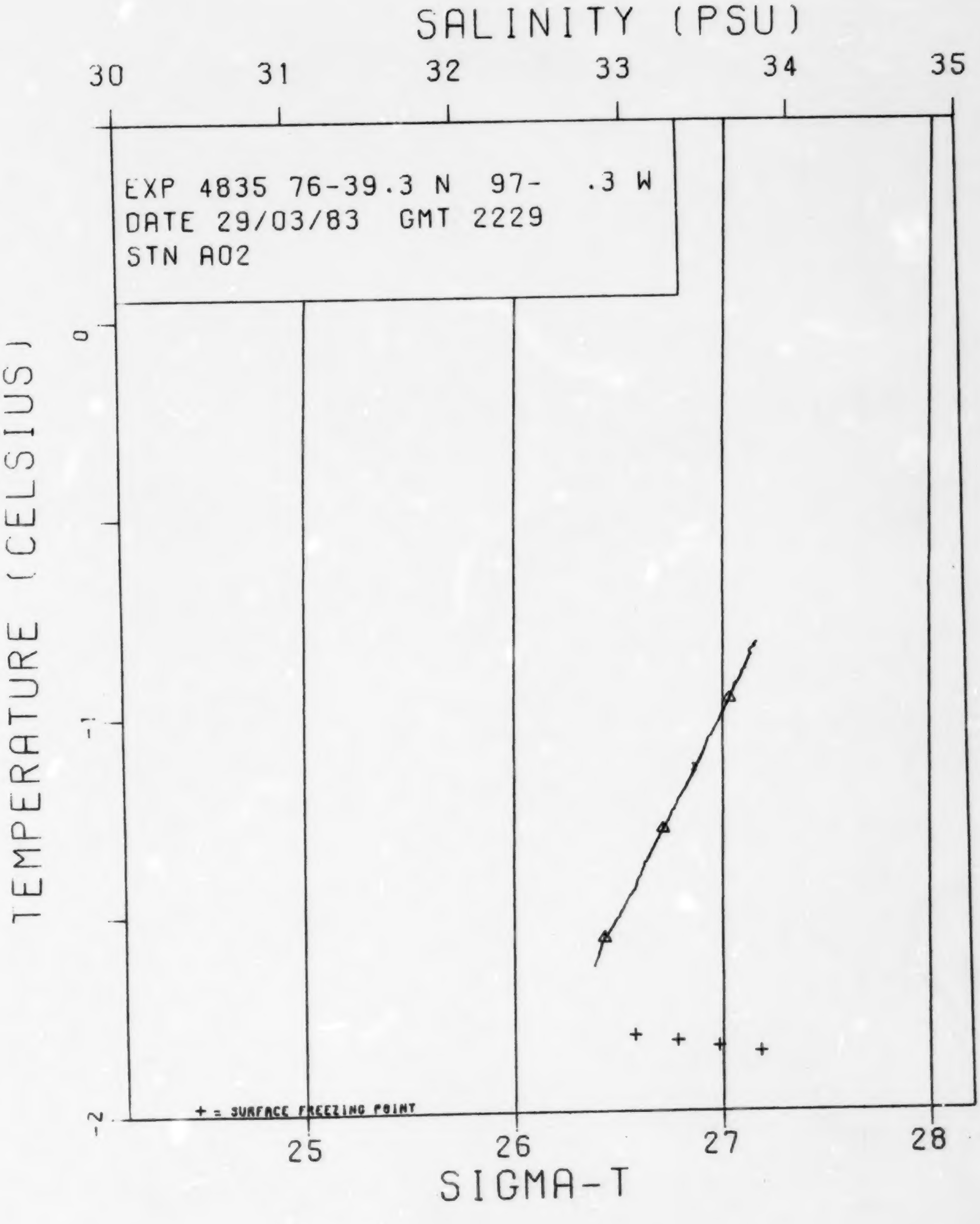
LAT.N. 76-39-18 LON.W. 97- 0-18 DATE 29/ 3/83 G.M.T. 2229

ICE THICKNESS 1.0 M WATER DEPTH 252 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.8	-1.633	.60664	32.760	26.356	.008	1438.6
5.0	-1.634	.60669	32.764	26.359	.008	1438.6
6.0	-1.634	.60668	32.762	26.358	.010	1438.7
7.0	-1.634	.60673	32.765	26.360	.012	1438.7
8.0	-1.633	.60678	32.765	26.360	.013	1438.7
9.0	-1.633	.60674	32.763	26.359	.015	1438.7
10.0	-1.628	.60689	32.766	26.361	.017	1438.8
11.0	-1.627	.60693	32.766	26.361	.018	1438.8
12.0	-1.625	.60701	32.768	26.363	.020	1438.8
13.0	-1.623	.60707	32.770	26.363	.022	1438.8
14.0	-1.623	.60711	32.771	26.365	.023	1438.8
15.0	-1.622	.60713	32.771	26.364	.025	1438.9
16.0	-1.622	.60715	32.771	26.364	.027	1438.9
17.0	-1.622	.60716	32.771	26.364	.028	1438.9
18.0	-1.622	.60718	32.771	26.365	.030	1438.9
19.0	-1.622	.60719	32.772	26.365	.031	1438.9
20.0	-1.623	.60721	32.773	26.366	.033	1439.0
21.0	-1.622	.60722	32.772	26.365	.035	1439.0
22.0	-1.622	.60725	32.773	26.366	.036	1439.0
23.0	-1.621	.60729	32.774	26.367	.038	1439.0
24.0	-1.621	.60731	32.775	26.368	.040	1439.0
25.0	-1.617	.60745	32.778	26.370	.041	1439.1
27.5	-1.615	.60753	32.779	26.371	.045	1439.1
30.0	-1.603	.60793	32.788	26.378	.050	1439.2
32.5	-1.596	.60818	32.793	26.382	.054	1439.3
35.0	-1.594	.60825	32.794	26.382	.058	1439.4
37.5	-1.595	.60826	32.794	26.383	.062	1439.4
40.0	-1.586	.60859	32.802	26.389	.066	1439.5
42.5	-1.578	.60882	32.805	26.391	.070	1439.6
45.0	-1.568	.60928	32.819	26.402	.074	1439.7
47.5	-1.564	.60938	32.820	26.403	.078	1439.7
50.0	-1.564	.60945	32.822	26.405	.082	1439.8
55.0	-1.557	.60989	32.838	26.417	.090	1439.9
60.0	-1.552	.61020	32.847	26.425	.098	1440.0
65.0	-1.535	.61095	32.870	26.443	.106	1440.2
70.0	-1.496	.61277	32.931	26.491	.114	1440.6
75.0	-1.441	.61515	33.008	26.552	.121	1441.0
80.0	-1.362	.61802	33.087	26.614	.128	1441.6
85.0	-1.346	.61878	33.111	26.633	.135	1441.8
90.0	-1.340	.61906	33.118	26.639	.142	1441.9
95.0	-1.313	.62019	33.151	26.665	.149	1442.2
100.0	-1.290	.62116	33.180	26.688	.156	1442.4
105.0	-1.289	.62130	33.184	26.691	.162	1442.5
110.0	-1.283	.62164	33.194	26.699	.169	1442.6

SITE A02 EXPERIMENT 4635

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.194	.62533	33.308	26.788	.176	1443.3
120.0	-1.161	.62669	33.349	26.821	.182	1443.6
125.0	-1.160	.62681	33.351	26.823	.188	1443.7
130.0	-1.157	.62704	33.359	26.829	.194	1443.8
135.0	-1.151	.62730	33.364	26.832	.200	1443.9
140.0	-1.102	.62926	33.421	26.877	.206	1444.3
145.0	-1.028	.63223	33.509	26.946	.211	1444.8
150.0	-.994	.63367	33.552	26.980	.217	1445.1
155.0	-.974	.63451	33.575	26.998	.222	1445.3
160.0	-.972	.63466	33.579	27.001	.227	1445.4
165.0	-.970	.63474	33.579	27.001	.232	1445.5
170.0	-.969	.63487	33.582	27.003	.238	1445.6
175.0	-.970	.63488	33.581	27.002	.243	1445.7
180.0	-.967	.63504	33.584	27.005	.248	1445.8
185.0	-.966	.63513	33.585	27.006	.253	1445.9
190.0	-.965	.63522	33.586	27.006	.258	1446.0
195.0	-.965	.63526	33.585	27.006	.263	1446.1
200.0	-.963	.63541	33.589	27.009	.269	1446.2
210.0	-.954	.63589	33.600	27.017	.279	1446.4
220.0	-.911	.63772	33.654	27.059	.289	1446.5
230.0	-.889	.63864	33.676	27.076	.299	1447.1
240.0	-.875	.63931	33.693	27.089	.306	1447.4
250.0	-.822	.64151	33.756	27.138	.318	1447.9
252.5	-.820	.64159	33.757	27.139	.320	1447.9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EXP 4835 76-39.3 N 97- .3 W
DATE 29/03/83 GMT 2229
STN A02
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
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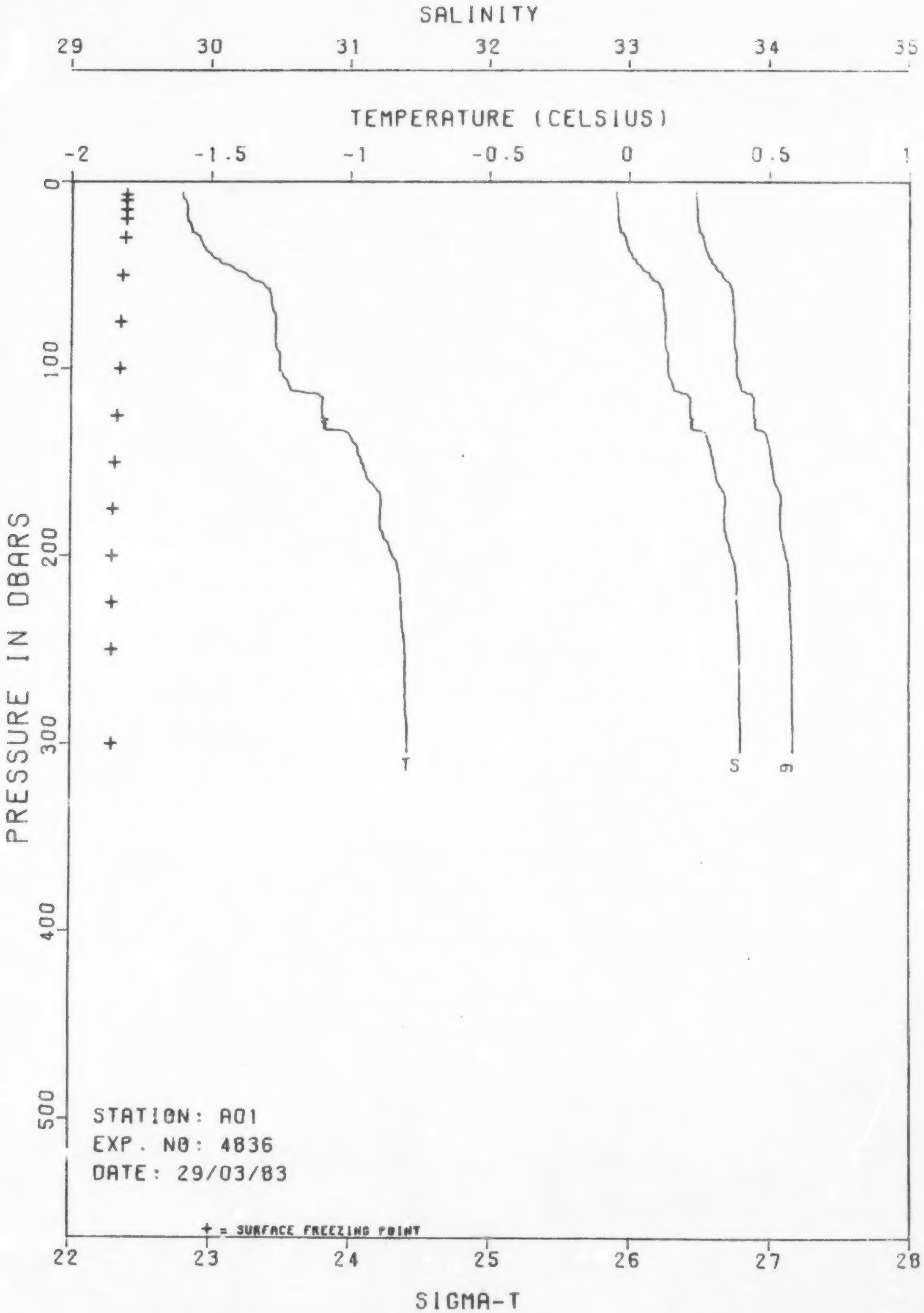
SIGMA-T


SALINITY
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35
TEMPERATURE (CELSIUS)
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-1.5
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PRESSURE IN DBARS
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STATION: A01
EXP. NO: 4836
DATE: 29/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A01 EXPERIMENT 4636

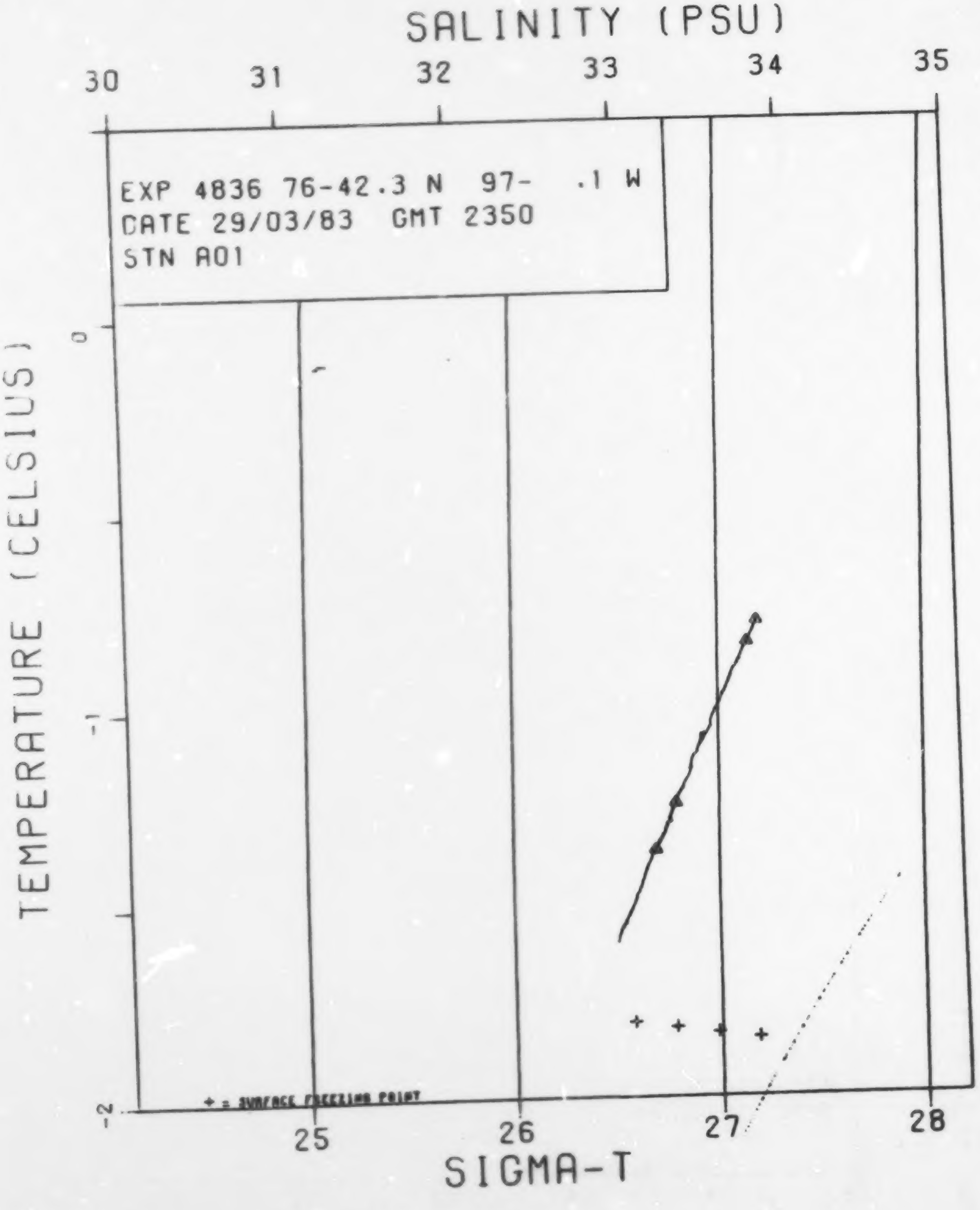
LAT.N. 76-42-18 LON.W. 97- 0- 5 DATE 29/ 3/83 G.M.T. 2350

ICE THICKNESS .9 M WATER DEPTH 305 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
5.7	-1.603	.60969	32.908	26.475	.009	1439.0
6.0	-1.605	.60969	32.909	26.476	.009	1439.0
7.0	-1.603	.60973	32.909	26.476	.011	1439.0
8.0	-1.604	.60971	32.908	26.475	.012	1439.0
9.0	-1.598	.60985	32.910	26.477	.014	1439.1
10.0	-1.590	.61009	32.914	26.480	.015	1439.1
11.0	-1.590	.61015	32.917	26.482	.017	1439.2
12.0	-1.590	.61015	32.916	26.482	.019	1439.2
13.0	-1.586	.61026	32.917	26.483	.020	1439.2
14.0	-1.585	.61031	32.919	26.484	.022	1439.2
15.0	-1.584	.61039	32.922	26.486	.023	1439.3
16.0	-1.586	.61031	32.918	26.483	.025	1439.3
17.0	-1.586	.61033	32.919	26.484	.026	1439.3
18.0	-1.586	.61032	32.919	26.484	.028	1439.3
19.0	-1.586	.61034	32.919	26.484	.029	1439.3
20.0	-1.584	.61042	32.921	26.485	.031	1439.3
21.0	-1.585	.61040	32.920	26.484	.032	1439.4
22.0	-1.576	.61076	32.930	26.493	.034	1439.4
23.0	-1.572	.61083	32.930	26.492	.035	1439.5
24.0	-1.576	.61071	32.926	26.490	.037	1439.5
25.0	-1.573	.61081	32.928	26.491	.038	1439.5
27.5	-1.563	.61124	32.942	26.502	.042	1439.6
30.0	-1.539	.61224	32.972	26.526	.046	1439.8
32.5	-1.532	.61254	32.981	26.533	.050	1439.9
35.0	-1.525	.61285	32.990	26.540	.053	1440.0
37.5	-1.516	.61320	33.000	26.548	.057	1440.1
40.0	-1.496	.61399	33.022	26.565	.061	1440.2
42.5	-1.468	.61505	33.052	26.589	.064	1440.4
45.0	-1.429	.61635	33.064	26.613	.068	1440.7
47.5	-1.410	.61703	33.102	26.628	.072	1440.9
50.0	-1.370	.61855	33.145	26.662	.075	1441.2
55.0	-1.309	.62101	33.220	26.720	.082	1441.6
60.0	-1.284	.62186	33.239	26.736	.088	1441.9
65.0	-1.283	.62201	33.244	26.739	.095	1442.0
70.0	-1.273	.62238	33.251	26.745	.101	1442.1
75.0	-1.267	.62268	33.259	26.751	.108	1442.2
80.0	-1.267	.62268	33.256	26.748	.114	1442.3
85.0	-1.269	.62264	33.253	26.746	.120	1442.4
90.0	-1.262	.62303	33.265	26.756	.127	1442.5
95.0	-1.252	.62345	33.275	26.764	.133	1442.6
100.0	-1.252	.62353	33.276	26.764	.139	1442.7
105.0	-1.233	.62413	33.288	26.774	.146	1442.9
110.0	-1.216	.62497	33.315	26.795	.152	1443.1
115.0	-1.105	.62901	33.425	26.881	.158	1443.9

SITE AD1 EXPERIMENT 4070

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.098	.62933	33.433	26.887	.164	1444.0
125.0	-1.101	.62936	33.435	26.889	.169	1444.1
130.0	-1.090	.62986	33.449	26.899	.175	1444.2
135.0	-1.001	.63332	33.549	26.977	.181	1444.9
140.0	-.982	.63411	33.571	26.994	.186	1445.1
145.0	-.971	.63464	33.586	27.007	.191	1445.2
150.0	-.958	.63517	33.600	27.017	.196	1445.4
155.0	-.942	.63578	33.615	27.029	.201	1445.5
160.0	-.929	.63636	33.631	27.041	.206	1445.7
165.0	-.900	.63757	33.666	27.066	.211	1446.0
170.0	-.888	.63823	33.687	27.085	.216	1446.1
175.0	-.889	.63814	33.680	27.080	.221	1446.2
180.0	-.890	.63815	33.680	27.079	.226	1446.3
185.0	-.889	.63824	33.680	27.080	.231	1446.4
190.0	-.875	.63881	33.695	27.091	.235	1446.5
195.0	-.856	.63965	33.719	27.110	.240	1446.8
200.0	-.845	.64017	33.734	27.121	.245	1446.9
210.0	-.819	.64126	33.763	27.144	.254	1447.2
220.0	-.816	.64147	33.765	27.145	.263	1447.4
230.0	-.812	.64178	33.773	27.152	.272	1447.6
240.0	-.805	.64209	33.777	27.155	.281	1447.8
250.0	-.799	.64246	33.786	27.162	.290	1448.0
260.0	-.797	.64259	33.785	27.161	.298	1448.2
270.0	-.797	.64282	33.792	27.166	.307	1448.4
280.0	-.797	.64283	33.786	27.162	.316	1448.5
290.0	-.792	.64316	33.794	27.166	.325	1448.7
300.0	-.792	.64326	33.793	27.167	.334	1448.9
304.7	-.791	.64332	33.793	27.167	.338	1449.0


SALINITY (PSU)
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EXP 4836 76-42.3 N 97- .1 W
DATE 29/03/83 GMT 2350
STN A01
TEMPERATURE (CELSIUS)
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+ = SURFACE FREEZING POINT
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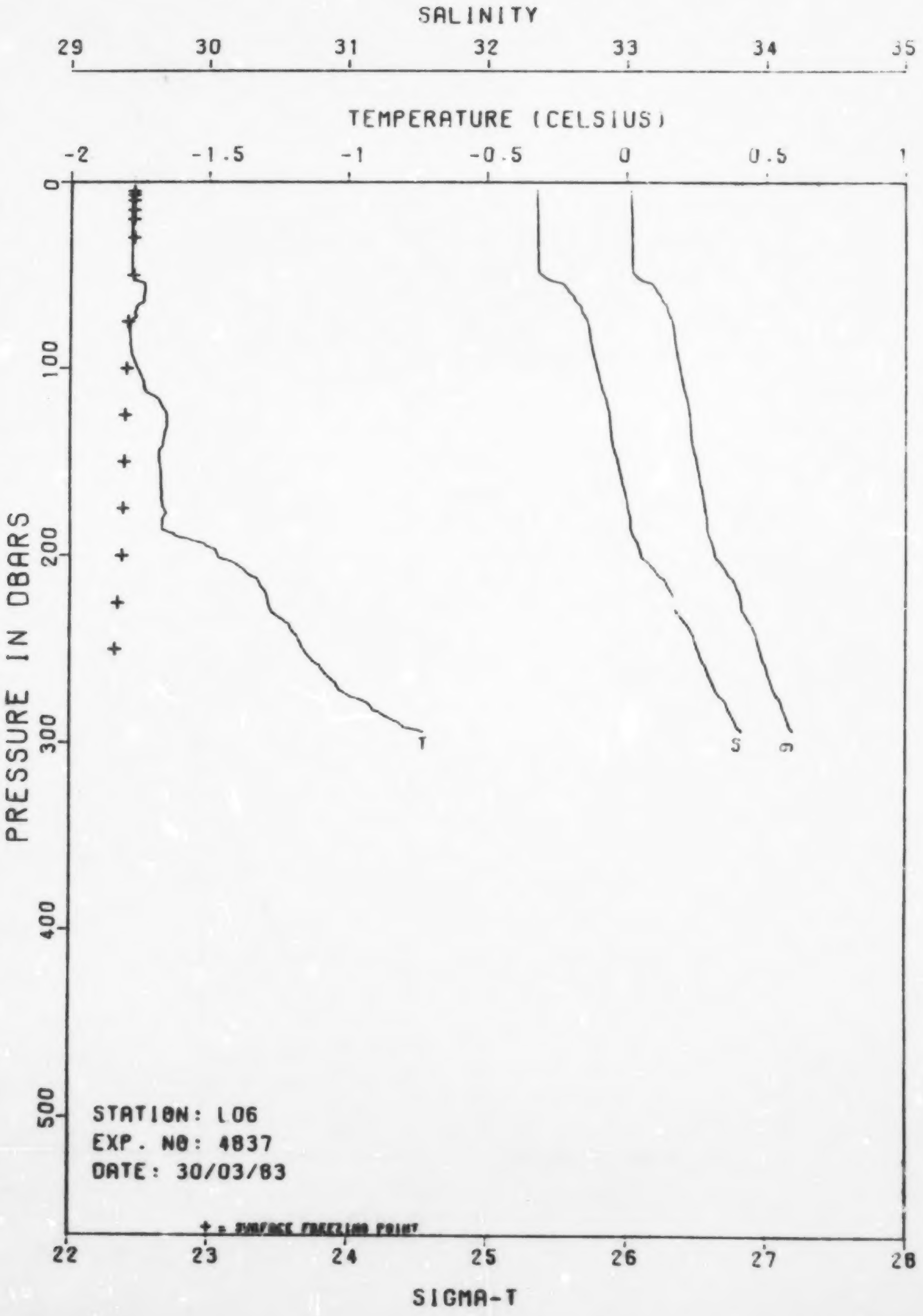
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: L06
EXP. NO: 4837
DATE: 30/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE L06   EXPERIMENT 4837

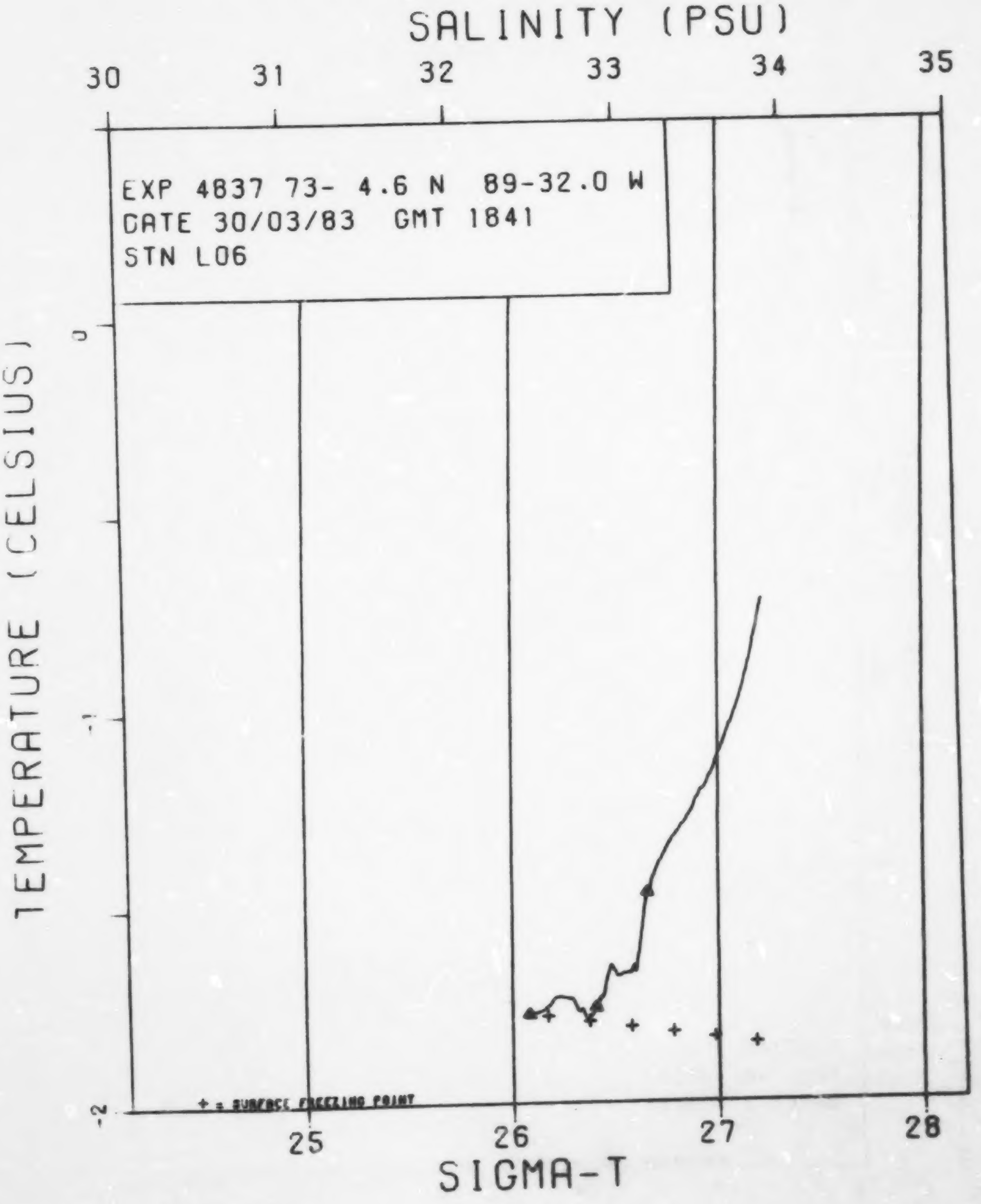
LAT.N. 73- 4-36   LON.W. 89-32- 0   DATE 30/ 3/83   G.M.T. 1841

ICE THICKNESS   1.7 M   WATER DEPTH   294   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.778	.59719	32.358	26.032	.009	1437.4
5.0	-1.778	.59721	32.358	26.032	.010	1437.4
6.0	-1.778	.59722	32.358	26.032	.012	1437.4
7.0	-1.777	.59723	32.357	26.032	.014	1437.4
8.0	-1.777	.59726	32.358	26.033	.016	1437.4
9.0	-1.777	.59726	32.358	26.032	.018	1437.5
10.0	-1.777	.59727	32.358	26.032	.020	1437.5
11.0	-1.777	.59728	32.359	26.033	.022	1437.5
12.0	-1.777	.59730	32.358	26.032	.024	1437.5
13.0	-1.777	.59731	32.358	26.032	.026	1437.5
14.0	-1.779	.59734	32.361	26.035	.028	1437.5
15.0	-1.778	.59736	32.361	26.035	.029	1437.6
16.0	-1.778	.59737	32.361	26.035	.031	1437.6
17.0	-1.779	.59738	32.362	26.036	.033	1437.6
18.0	-1.779	.59740	32.362	26.036	.035	1437.6
19.0	-1.778	.59741	32.362	26.036	.037	1437.6
20.0	-1.778	.59743	32.362	26.035	.039	1437.6
21.0	-1.779	.59743	32.362	26.036	.041	1437.6
22.0	-1.778	.59745	32.362	26.036	.043	1437.7
23.0	-1.778	.59746	32.362	26.036	.045	1437.7
24.0	-1.778	.59748	32.363	26.036	.047	1437.7
25.0	-1.778	.59748	32.362	26.035	.049	1437.7
27.5	-1.778	.59752	32.363	26.036	.054	1437.8
30.0	-1.777	.59754	32.362	26.036	.059	1437.8
32.5	-1.778	.59758	32.363	26.037	.064	1437.8
35.0	-1.778	.59761	32.363	26.037	.069	1437.9
37.5	-1.778	.59764	32.364	26.038	.074	1437.9
40.0	-1.779	.59768	32.366	26.039	.078	1438.0
42.5	-1.779	.59771	32.366	26.039	.083	1438.0
45.0	-1.778	.59774	32.366	26.039	.088	1438.0
47.5	-1.778	.59783	32.369	26.041	.093	1438.1
50.0	-1.775	.59833	32.394	26.061	.098	1438.2
55.0	-1.730	.60183	32.550	26.188	.107	1438.7
60.0	-1.734	.60275	32.606	26.233	.116	1438.8
65.0	-1.738	.60342	32.647	26.266	.125	1439.0
70.0	-1.768	.60349	32.661	26.295	.134	1439.0
75.0	-1.783	.60394	32.722	26.328	.142	1439.0
80.0	-1.786	.60413	32.733	26.337	.151	1439.1
85.0	-1.782	.60442	32.743	26.346	.159	1439.2
90.0	-1.780	.60470	32.755	26.355	.167	1439.3
95.0	-1.772	.60518	32.771	26.368	.175	1439.5
100.0	-1.759	.60578	32.789	26.382	.184	1439.6
105.0	-1.742	.60640	32.804	26.394	.192	1439.8
110.0	-1.735	.60691	32.823	26.410	.200	1440.0

SITE L06 EXPERIMENT 4437

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.695	.60811	32.847	26.428	.208	1440.3
120.0	-1.669	.60892	32.864	26.441	.216	1440.5
125.0	-1.652	.60951	32.876	26.451	.223	1440.7
130.0	-1.653	.60964	32.883	26.456	.231	1440.8
135.0	-1.660	.60966	32.889	26.461	.239	1440.8
140.0	-1.666	.60974	32.897	26.468	.247	1440.9
145.0	-1.680	.60981	32.914	26.482	.254	1440.9
150.0	-1.679	.61027	32.937	26.500	.262	1441.0
155.0	-1.673	.61067	32.950	26.511	.269	1441.2
160.0	-1.673	.61099	32.967	26.525	.277	1441.3
165.0	-1.672	.61133	32.982	26.536	.284	1441.4
170.0	-1.673	.61161	32.997	26.549	.292	1441.5
175.0	-1.662	.61203	33.007	26.557	.299	1441.6
180.0	-1.666	.61231	33.025	26.572	.306	1441.7
185.0	-1.670	.61232	33.027	26.574	.313	1441.8
190.0	-1.620	.61367	33.048	26.590	.320	1442.1
195.0	-1.510	.61634	33.082	26.614	.328	1442.8
200.0	-1.468	.61755	33.103	26.630	.334	1443.1
210.0	-1.358	.62172	33.220	26.722	.348	1443.9
220.0	-1.295	.62477	33.324	26.805	.360	1444.6
230.0	-1.273	.62583	33.355	26.829	.372	1444.9
240.0	-1.201	.62902	33.457	26.909	.384	1445.5
250.0	-1.158	.63080	33.507	26.949	.395	1445.9
260.0	-1.097	.63313	33.568	26.996	.406	1446.5
270.0	-1.040	.63531	33.626	27.041	.416	1447.0
280.0	-.920	.63927	33.717	27.111	.425	1447.8
290.0	-.809	.64263	33.782	27.159	.434	1448.6
294.0	-.724	.64513	33.830	27.194	.438	1449.1


SALINITY (PSU)
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31
32
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34
35
EXP 4837 73- 4.6 N 89-32.0 W
DATE 30/03/83 GMT 1841
STN L06
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
25
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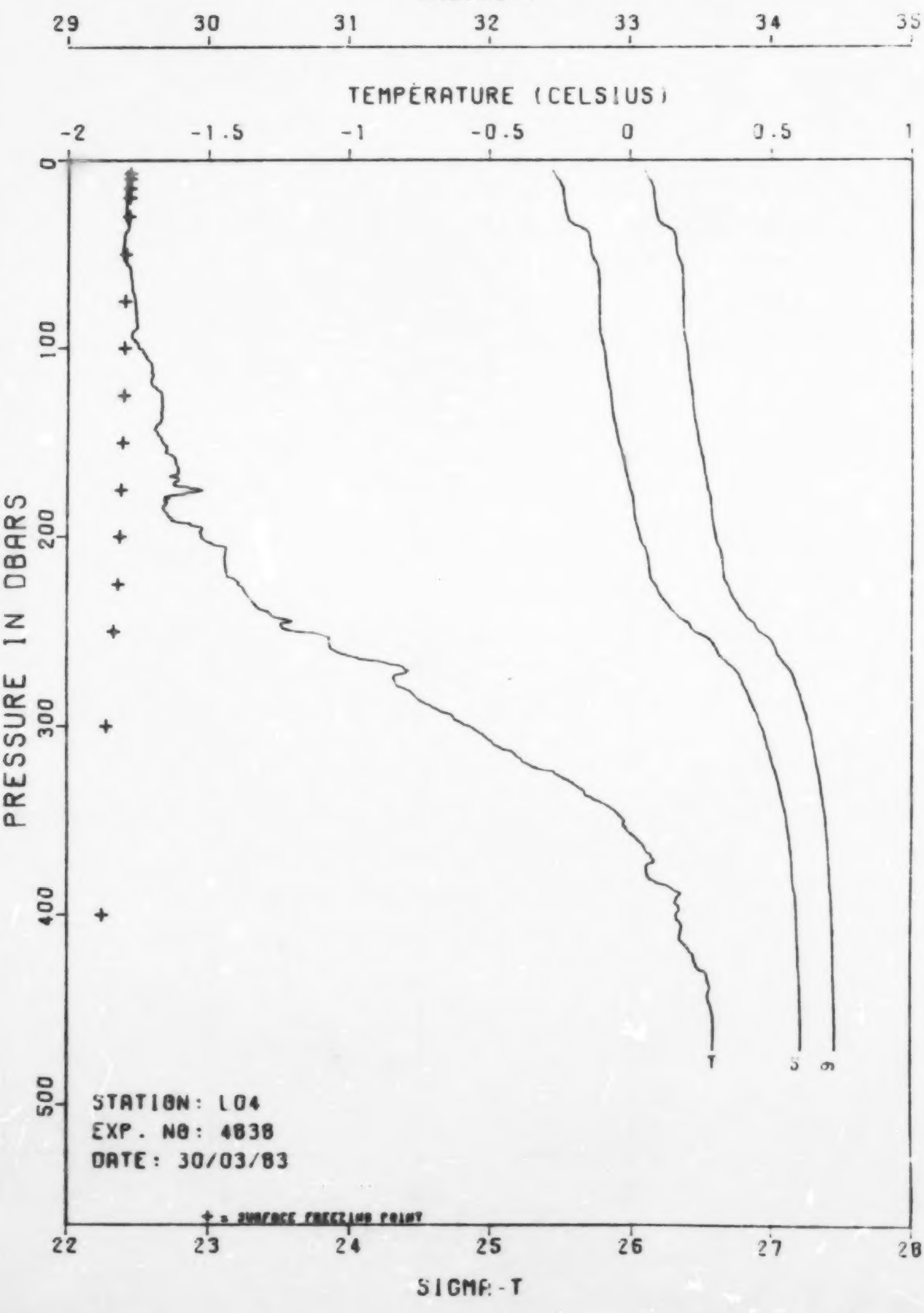
SIGMA-T


SALINITY
29
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TEMPERATURE (CELSIUS)
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-1
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0
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PRESSURE IN DBARS
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100
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STATION: L04
EXP. NO: 4838
DATE: 30/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE C15-83-022   ARCTIC ISLANDS-83   SITE L04   EXPERIMENT 4838

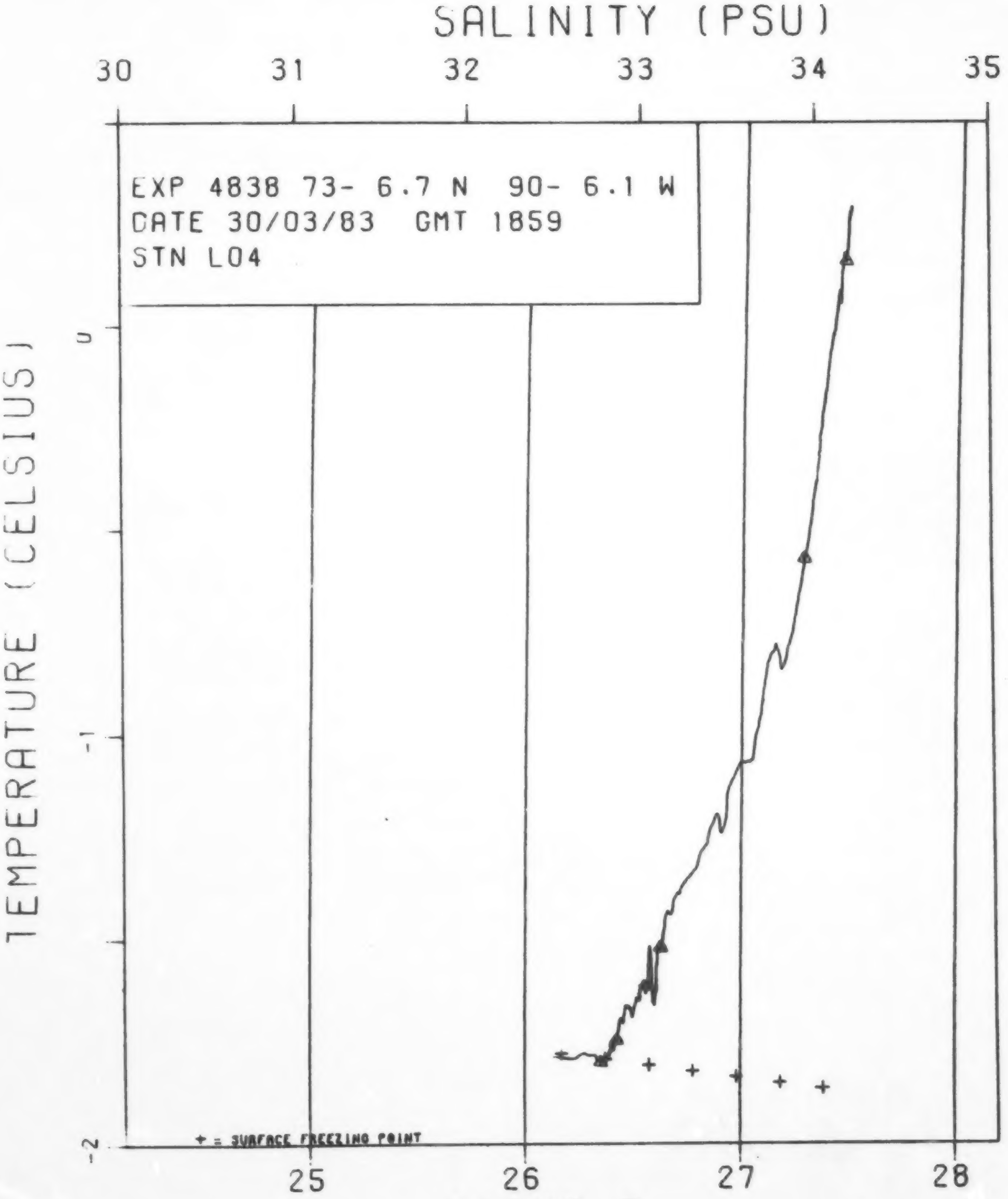
LAT.N. 73- 6-41   LON.W. 90- 6- 6   DATE 30/ 3/83   G.M.T. 1859

ICE THICKNESS 1.7 M   WATER DEPTH 470 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
5.7	-1.788	.59858	32.450	26.108	.011	1437.5
6.0	-1.788	.59862	32.453	26.110	.011	1437.5
7.0	-1.787	.59875	32.459	26.115	.013	1437.5
8.0	-1.788	.59888	32.467	26.121	.015	1437.5
9.0	-1.789	.59898	32.473	26.126	.017	1437.6
10.0	-1.789	.59914	32.482	26.134	.019	1437.6
11.0	-1.789	.59950	32.503	26.151	.021	1437.6
12.0	-1.790	.59951	32.504	26.152	.023	1437.6
13.0	-1.790	.59962	32.511	26.157	.025	1437.7
14.0	-1.792	.59970	32.516	26.161	.026	1437.7
15.0	-1.791	.59981	32.522	26.166	.028	1437.7
16.0	-1.791	.59985	32.523	26.167	.030	1437.7
17.0	-1.792	.59989	32.526	26.169	.032	1437.8
18.0	-1.791	.59993	32.527	26.170	.034	1437.8
19.0	-1.791	.59994	32.527	26.170	.036	1437.8
20.0	-1.792	.59997	32.528	26.171	.037	1437.8
21.0	-1.792	.59999	32.529	26.172	.039	1437.8
22.0	-1.793	.60006	32.533	26.175	.041	1437.8
23.0	-1.792	.60009	32.534	26.176	.043	1437.9
24.0	-1.793	.60012	32.536	26.178	.045	1437.9
25.0	-1.793	.60018	32.539	26.180	.047	1437.9
27.5	-1.792	.60029	32.544	26.184	.051	1437.9
30.0	-1.793	.60053	32.557	26.194	.056	1438.0
32.5	-1.791	.60075	32.567	26.202	.060	1438.1
35.0	-1.779	.60194	32.623	26.248	.065	1438.2
37.5	-1.794	.60300	32.690	26.302	.069	1438.4
40.0	-1.800	.60305	32.709	26.318	.073	1438.3
42.5	-1.798	.60313	32.711	26.319	.077	1438.4
45.0	-1.800	.60324	32.717	26.325	.082	1438.4
47.5	-1.803	.60327	32.721	26.328	.086	1438.5
50.0	-1.803	.60342	32.728	26.334	.090	1438.5
55.0	-1.789	.60427	32.761	26.360	.098	1438.7
60.0	-1.775	.60482	32.774	26.370	.107	1438.9
65.0	-1.771	.60497	32.776	26.372	.115	1439.0
70.0	-1.769	.60514	32.780	26.375	.123	1439.1
75.0	-1.760	.60534	32.780	26.375	.131	1439.2
80.0	-1.757	.60548	32.782	26.376	.139	1439.3
85.0	-1.754	.60557	32.781	26.376	.147	1439.4
90.0	-1.756	.60571	32.787	26.381	.156	1439.5
95.0	-1.769	.60570	32.799	26.390	.164	1439.5
100.0	-1.747	.60641	32.813	26.402	.172	1439.7
105.0	-1.718	.60719	32.825	26.411	.180	1440.0
110.0	-1.700	.60770	32.832	26.416	.188	1440.1
115.0	-1.695	.60798	32.840	26.422	.196	1440.3

SITE L04 EXPERIMENT 4035

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
120.0	-1.699	.60822	32.855	26.435	.204	1440.3
125.0	-1.664	.60905	32.863	26.441	.211	1440.6
130.0	-1.664	.60925	32.872	26.448	.219	1440.7
135.0	-1.669	.60935	32.881	26.455	.227	1440.8
140.0	-1.674	.60955	32.895	26.467	.235	1440.8
145.0	-1.680	.60973	32.908	26.477	.242	1440.9
150.0	-1.664	.61027	32.920	26.486	.250	1441.1
155.0	-1.652	.61098	32.946	26.507	.258	1441.3
160.0	-1.615	.61202	32.963	26.521	.265	1441.6
165.0	-1.604	.61245	32.974	26.529	.273	1441.7
170.0	-1.605	.61272	32.987	26.540	.280	1441.8
175.0	-1.530	.61441	33.002	26.550	.287	1442.3
180.0	-1.653	.61250	33.022	26.569	.295	1441.9
185.0	-1.663	.61250	33.030	26.576	.302	1441.8
190.0	-1.632	.61323	33.035	26.579	.309	1442.1
195.0	-1.522	.61565	33.054	26.592	.316	1442.7
200.0	-1.521	.61599	33.070	26.605	.323	1442.8
210.0	-1.439	.61654	33.123	26.646	.337	1443.4
220.0	-1.431	.61905	33.139	26.658	.351	1443.6
230.0	-1.364	.62158	33.207	26.712	.364	1444.2
240.0	-1.282	.62506	33.315	26.797	.377	1444.9
250.0	-1.182	.62948	33.456	26.906	.388	1445.8
260.0	-1.047	.63486	33.614	27.032	.399	1446.8
270.0	-.799	.64184	33.737	27.122	.409	1448.3
280.0	-.801	.64318	33.811	27.182	.417	1448.5
290.0	-.700	.64621	33.867	27.224	.426	1449.2
300.0	-.564	.64988	33.922	27.262	.434	1450.1
310.0	-.479	.65233	33.961	27.290	.442	1450.7
320.0	-.358	.65546	34.000	27.316	.449	1451.5
330.0	-.204	.65930	34.042	27.343	.456	1452.4
340.0	-.103	.66193	34.073	27.363	.463	1453.1
350.0	-.021	.66418	34.103	27.383	.470	1453.7
360.0	.025	.66552	34.123	27.397	.477	1454.1
370.0	.079	.66702	34.141	27.409	.484	1454.5
380.0	.066	.66702	34.150	27.417	.490	1454.6
390.0	.171	.66962	34.174	27.431	.497	1455.3
400.0	.159	.66958	34.180	27.436	.503	1455.4
425.0	.225	.67141	34.195	27.444	.519	1456.2
450.0	.286	.67317	34.211	27.454	.534	1456.9
471.3	.293	.67356	34.214	27.456	.547	1457.3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EXP 4838 73- 6.7 N 90- 6.1 W
DATE 30/03/83 GMT 1859
STN L04
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
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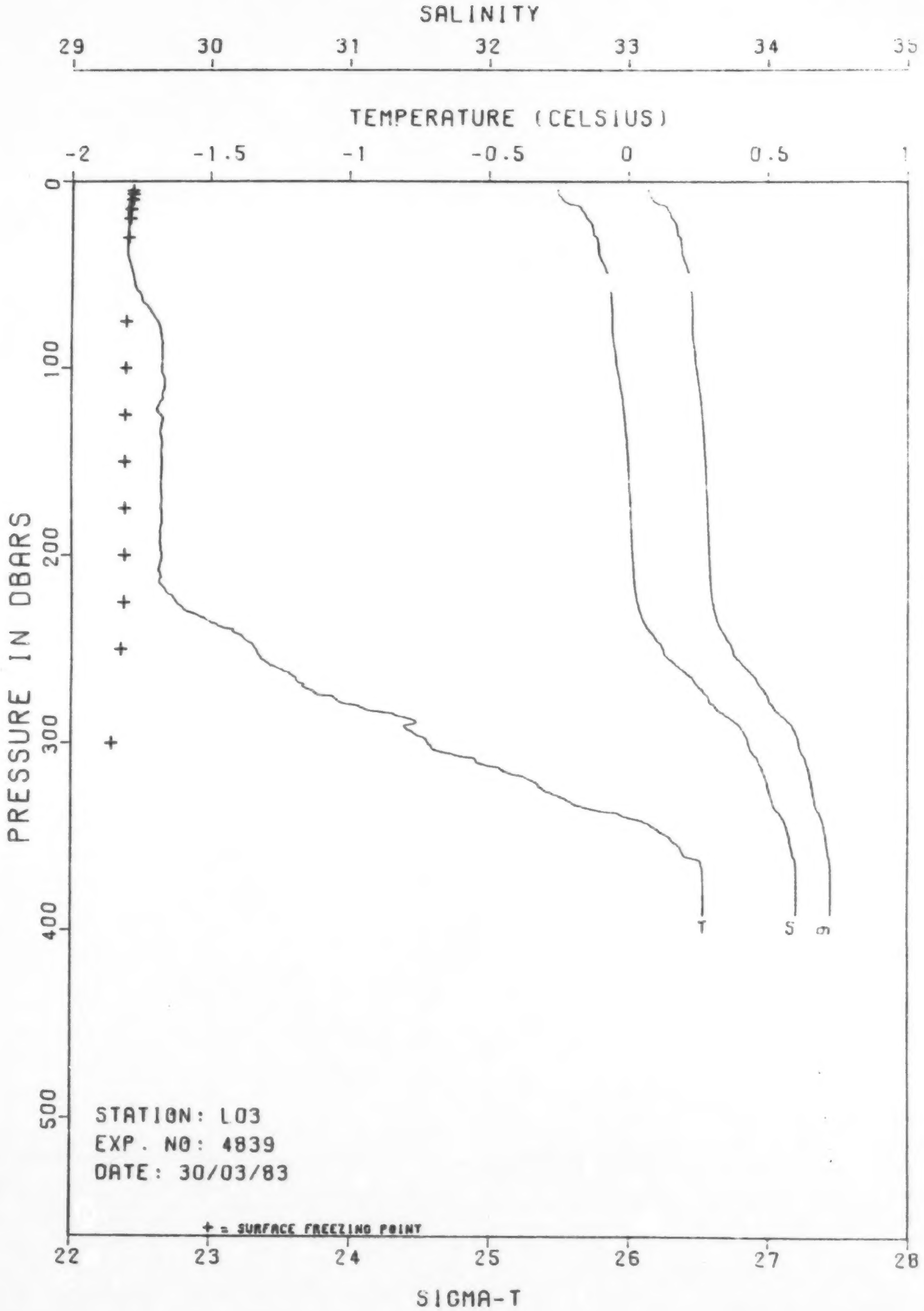
28
SIGMA-T


SALINITY
29
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34
35
TEMPERATURE (CELSIUS)
-2
-1.5
-1
-0.5
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PRESSURE IN DBARS
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STATION: L03
EXP. NO: 4839
DATE: 30/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE L03 EXPERIMENT 4839

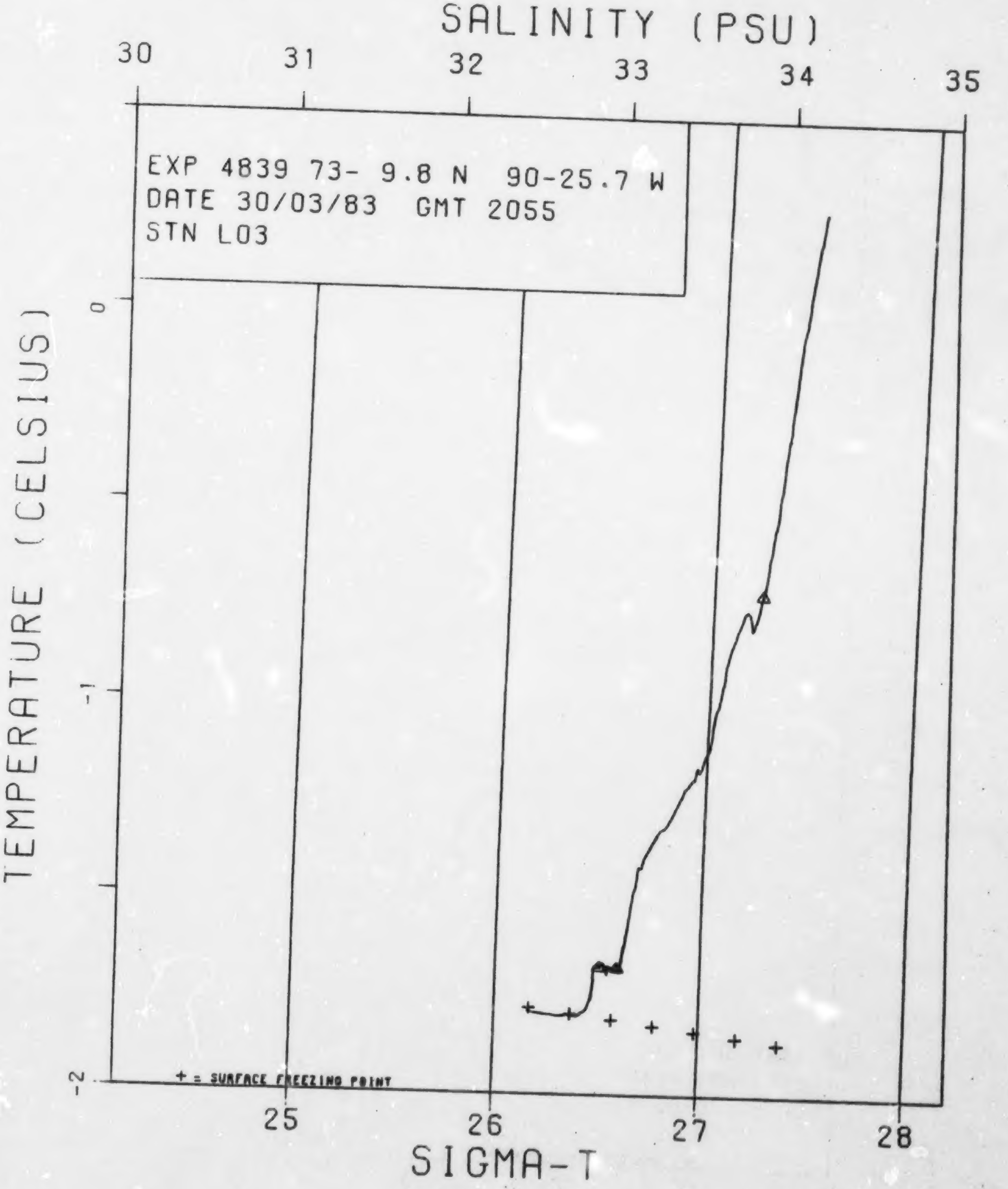
LAT.N. 73- 9-47 LON.W. 90-25-42 DATE 30/ 3/83 G.M.T. 2055

ICE THICKNESS 2.0 M WATER DEPTH 391 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.797	.59924	32.490	26.140	.009	1437.5
5.0	-1.788	.59920	32.488	26.138	.009	1437.5
6.0	-1.788	.59926	32.491	26.141	.011	1437.5
7.0	-1.789	.59929	32.493	26.142	.013	1437.6
8.0	-1.790	.59943	32.502	26.150	.015	1437.6
9.0	-1.791	.59972	32.519	26.164	.017	1437.6
10.0	-1.792	.59979	32.524	26.168	.019	1437.6
11.0	-1.793	.60002	32.538	26.179	.020	1437.7
12.0	-1.794	.60048	32.566	26.202	.022	1437.7
13.0	-1.796	.60154	32.631	26.255	.024	1437.8
14.0	-1.799	.60194	32.658	26.276	.026	1437.9
15.0	-1.799	.60200	32.660	26.279	.028	1437.9
16.0	-1.799	.60202	32.662	26.280	.029	1437.9
17.0	-1.798	.60241	32.683	26.297	.031	1437.9
18.0	-1.798	.60251	32.688	26.301	.033	1438.0
19.0	-1.798	.60257	32.691	26.303	.034	1438.0
20.0	-1.798	.60265	32.695	26.306	.036	1438.0
21.0	-1.796	.60297	32.711	26.320	.038	1438.1
22.0	-1.796	.60315	32.721	26.328	.039	1438.1
23.0	-1.795	.60334	32.731	26.336	.041	1438.1
24.0	-1.796	.60346	32.739	26.343	.043	1438.1
25.0	-1.797	.60349	32.741	26.344	.044	1438.2
27.5	-1.799	.60354	32.744	26.347	.049	1438.2
30.0	-1.798	.60393	32.766	26.364	.053	1438.3
32.5	-1.799	.60413	32.777	26.373	.057	1438.3
35.0	-1.799	.60423	32.781	26.377	.061	1438.4
37.5	-1.800	.60419	32.778	26.375	.065	1438.4
40.0	-1.800	.60440	32.789	26.383	.069	1438.5
42.5	-1.793	.60480	32.805	26.396	.073	1438.6
45.0	-1.787	.60520	32.820	26.408	.077	1438.6
47.5	-1.784	.60551	32.833	26.419	.081	1438.7
50.0	-1.779	ERRONEOUS CONDUCTIVITY RATIO DATA FROM 49.2 TO 59.2 DBARS				
55.0	-1.768					
60.0	-1.751	.60698	32.876	26.453	.101	1439.1
65.0	-1.743	.60718	32.876	26.452	.109	1439.3
70.0	-1.712	.60791	32.882	26.457	.117	1439.5
75.0	-1.688	.60840	32.882	26.456	.124	1439.7
80.0	-1.678	.60863	32.882	26.456	.132	1439.8
85.0	-1.673	.60886	32.887	26.460	.140	1439.9
90.0	-1.673	.60913	32.899	26.470	.148	1440.0
95.0	-1.673	.60930	32.906	26.476	.155	1440.1
100.0	-1.674	.60949	32.916	26.483	.163	1440.2
105.0	-1.665	.60992	32.928	26.493	.171	1440.4
110.0	-1.665	.61019	32.941	26.504	.176	1440.5

SITE L03 EXPERIMENT 4839

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.673	.61026	32.951	26.512	.186	1440.5
120.0	-1.685	.61023	32.959	26.519	.193	1440.6
125.0	-1.680	.61049	32.967	26.525	.201	1440.7
130.0	-1.676	.61074	32.974	26.531	.208	1440.8
135.0	-1.681	.61079	32.979	26.535	.216	1440.9
140.0	-1.672	.61109	32.984	26.539	.223	1441.0
145.0	-1.678	.61111	32.988	26.542	.230	1441.0
150.0	-1.675	.61130	32.993	26.546	.238	1441.1
155.0	-1.676	.61139	32.997	26.549	.245	1441.2
160.0	-1.678	.61146	33.000	26.552	.252	1441.3
165.0	-1.678	.61155	33.003	26.554	.260	1441.4
170.0	-1.676	.61173	33.008	26.558	.267	1441.5
175.0	-1.680	.61175	33.010	26.560	.274	1441.6
180.0	-1.676	.61190	33.012	26.562	.281	1441.7
185.0	-1.682	.61192	33.016	26.565	.289	1441.7
190.0	-1.682	.61202	33.019	26.566	.296	1441.8
195.0	-1.681	.61213	33.021	26.569	.303	1441.9
200.0	-1.676	.61235	33.026	26.573	.310	1442.0
210.0	-1.678	.61255	33.035	26.580	.325	1442.2
220.0	-1.657	.61330	33.049	26.591	.339	1442.5
230.0	-1.580	.61539	33.081	26.615	.353	1443.0
240.0	-1.417	.61971	33.150	26.667	.367	1444.1
250.0	-1.336	.62300	33.248	26.744	.380	1444.7
260.0	-1.258	.62664	33.368	26.839	.392	1445.4
270.0	-1.168	.63072	33.501	26.944	.404	1446.2
280.0	-.968	.63665	33.618	27.032	.414	1447.5
290.0	-.786	.64318	33.787	27.163	.423	1448.7
300.0	-.717	.64578	33.855	27.214	.432	1449.3
310.0	-.543	.65051	33.928	27.266	.440	1450.4
320.0	-.342	.65551	33.984	27.303	.448	1451.6
330.0	-.222	.65861	34.022	27.327	.455	1452.3
340.0	.007	.66452	34.098	27.377	.462	1453.6
350.0	.148	.66826	34.147	27.410	.469	1454.5
360.0	.199	.66978	34.171	27.426	.476	1455.0
370.0	.265	.67165	34.197	27.443	.482	1455.5
380.0	.266	.67180	34.197	27.444	.488	1455.6
390.0	.267	.67192	34.197	27.444	.494	1455.8
391.8	.266	.67193	34.198	27.444	.495	1455.8


SALINITY (PSU)
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EXP 4839 73- 9.8 N 90-25.7 W
DATE 30/03/83 GMT 2055
STN L03
TEMPERATURE (CELSIUS)
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-2
+ = SURFACE FREEZING POINT
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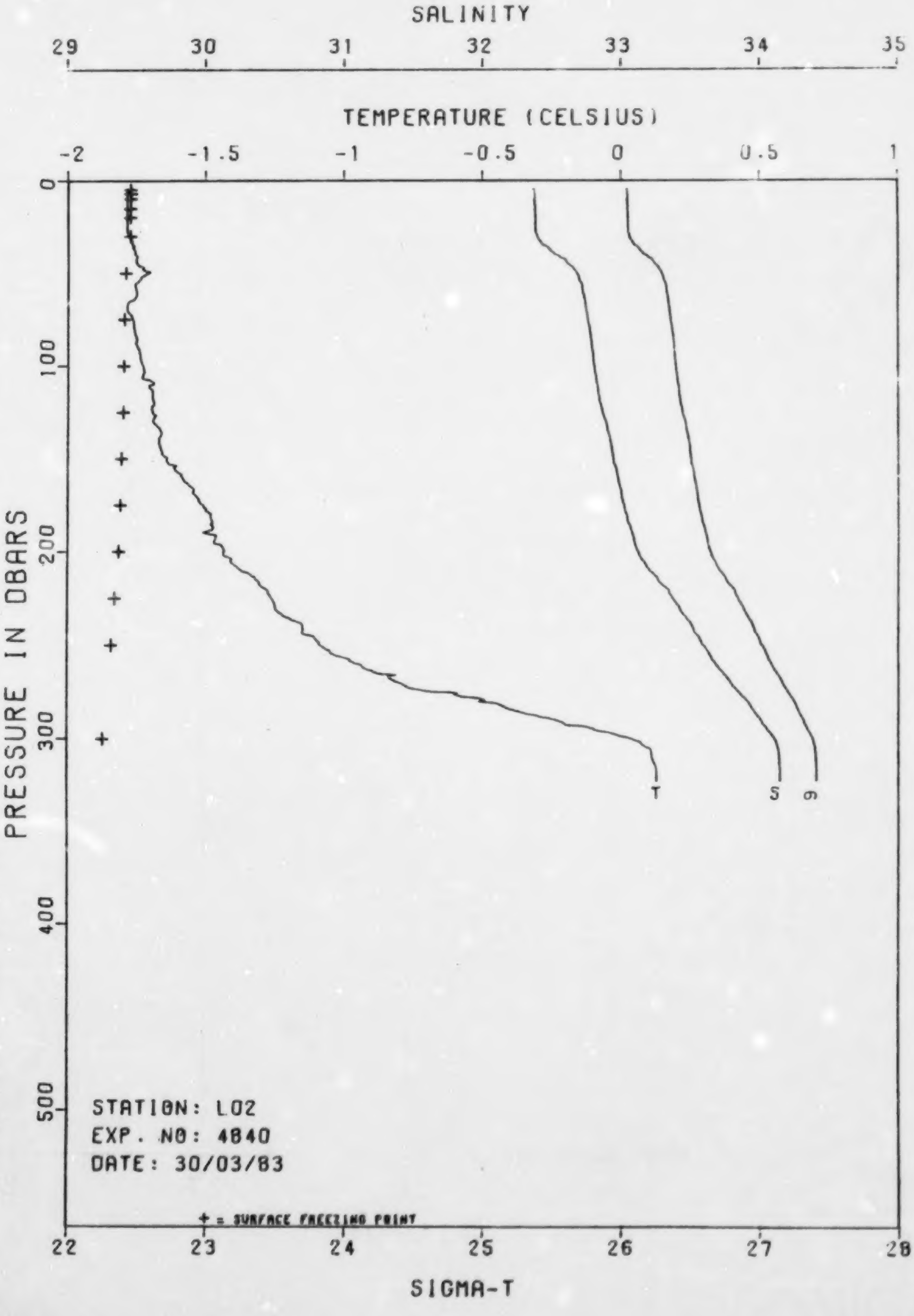
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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-1.5
-1
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PRESSURE IN DBARS
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STATION: L02
EXP. NO: 4840
DATE: 30/03/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE L02   EXPERIMENT 4840

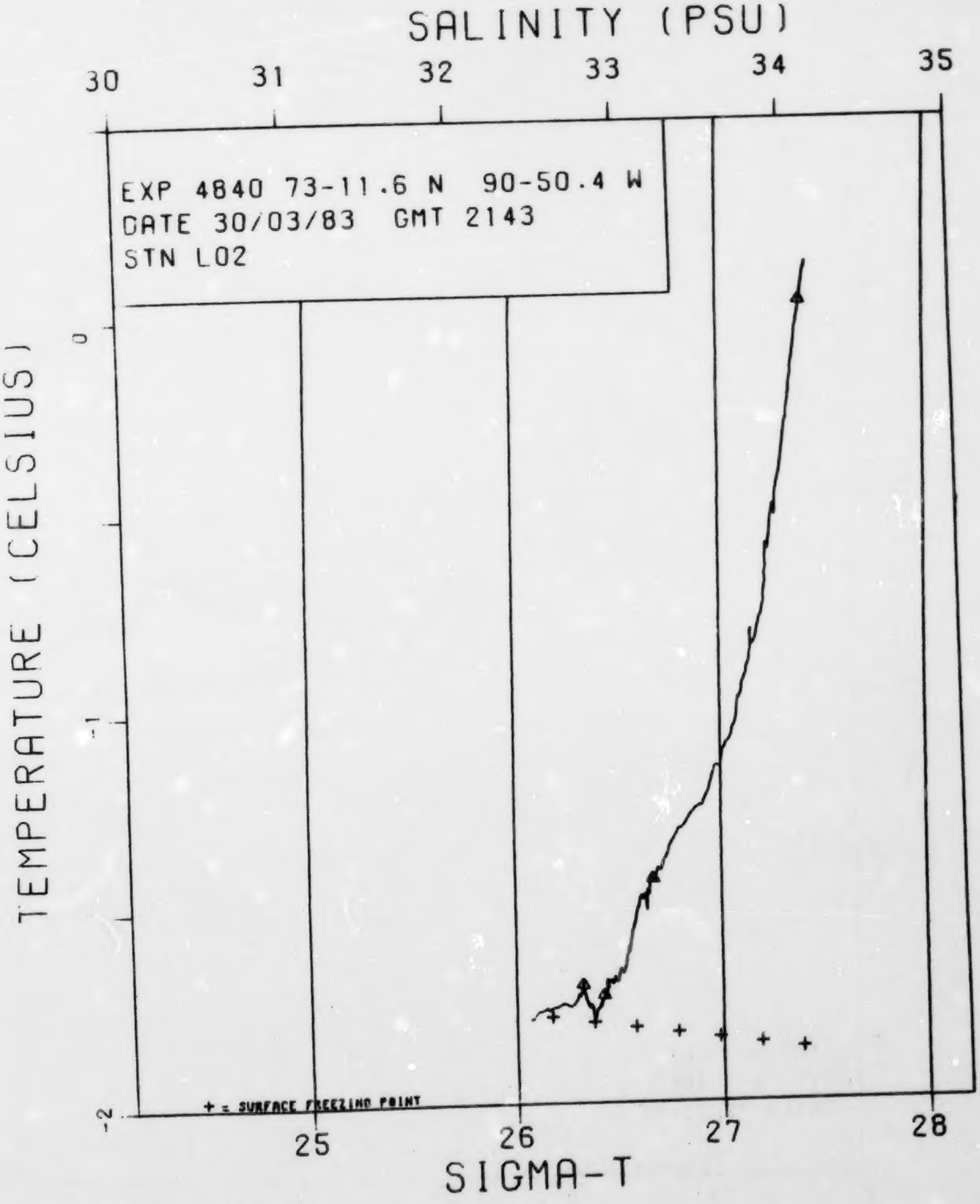
LAT.N. 73-11-36   LON.W. 90-50-24   DATE 30/ 3/83   G.M.T. 2143

ICE THICKNESS   1.7 M   WATER DEPTH   324   M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.786	.59729	32.372	26.044	.009	1437.4
5.0	-1.784	.59741	32.377	26.048	.010	1437.4
6.0	-1.785	.59745	32.380	26.050	.012	1437.4
7.0	-1.785	.59747	32.380	26.051	.014	1437.4
8.0	-1.785	.59751	32.381	26.052	.016	1437.4
9.0	-1.785	.59750	32.380	26.051	.018	1437.4
10.0	-1.785	.59755	32.383	26.053	.020	1437.5
11.0	-1.785	.59748	32.378	26.049	.022	1437.5
12.0	-1.784	.59757	32.382	26.052	.023	1437.5
13.0	-1.785	.59755	32.381	26.052	.025	1437.5
14.0	-1.785	.59754	32.380	26.050	.027	1437.5
15.0	-1.784	.59761	32.383	26.053	.029	1437.6
16.0	-1.785	.59763	32.384	26.054	.031	1437.6
17.0	-1.785	.59763	32.383	26.053	.033	1437.6
18.0	-1.785	.59765	32.384	26.054	.035	1437.6
19.0	-1.784	.59772	32.387	26.056	.037	1437.6
20.0	-1.785	.59767	32.384	26.054	.039	1437.6
21.0	-1.785	.59769	32.385	26.054	.041	1437.7
22.0	-1.785	.59766	32.382	26.052	.043	1437.7
23.0	-1.785	.59773	32.385	26.055	.045	1437.7
24.0	-1.785	.59776	32.387	26.056	.047	1437.7
25.0	-1.784	.59776	32.386	26.055	.049	1437.7
27.5	-1.784	.59779	32.386	26.055	.054	1437.8
30.0	-1.775	.59825	32.401	26.068	.058	1437.9
32.5	-1.768	.59863	32.415	26.079	.063	1438.0
35.0	-1.764	.59909	32.437	26.096	.068	1438.1
37.5	-1.760	.60013	32.492	26.141	.073	1438.2
40.0	-1.755	.60082	32.526	26.169	.077	1438.3
42.5	-1.753	.60213	32.601	26.230	.082	1438.5
45.0	-1.751	.60252	32.620	26.244	.086	1438.5
47.5	-1.722	.60377	32.661	26.278	.091	1438.8
50.0	-1.701	.60459	32.686	26.297	.095	1438.9
55.0	-1.747	.60419	32.709	26.317	.103	1438.8
60.0	-1.751	.60453	32.731	26.335	.112	1438.9
65.0	-1.772	.60437	32.741	26.343	.120	1438.9
70.0	-1.785	.60440	32.754	26.354	.128	1439.0
75.0	-1.765	.60503	32.766	26.364	.137	1439.2
80.0	-1.760	.60539	32.779	26.374	.145	1439.3
85.0	-1.749	.60574	32.785	26.379	.153	1439.4
90.0	-1.747	.60598	32.794	26.386	.161	1439.5
95.0	-1.736	.60639	32.802	26.393	.169	1439.7
100.0	-1.728	.60673	32.812	26.400	.177	1439.8
105.0	-1.731	.60688	32.820	26.407	.185	1439.9
110.0	-1.687	.60792	32.831	26.415	.193	1440.2

SITE L02 EXPERIMENT 4640

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.691	.60806	32.840	26.422	.201	1440.3
120.0	-1.688	.60840	32.854	26.434	.209	1440.4
125.0	-1.693	.60864	32.870	26.447	.217	1440.5
130.0	-1.693	.60909	32.894	26.467	.225	1440.6
135.0	-1.665	.60986	32.907	26.476	.233	1440.8
140.0	-1.669	.61018	32.927	26.492	.240	1440.9
145.0	-1.662	.61052	32.935	26.499	.248	1441.0
150.0	-1.639	.61121	32.948	26.509	.255	1441.2
155.0	-1.613	.61202	32.965	26.522	.263	1441.5
160.0	-1.587	.61283	32.980	26.534	.270	1441.7
165.0	-1.557	.61368	32.995	26.545	.278	1442.0
170.0	-1.534	.61440	33.009	26.556	.285	1442.2
175.0	-1.507	.61518	33.022	26.565	.292	1442.4
180.0	-1.477	.61612	33.041	26.580	.299	1442.6
185.0	-1.475	.61644	33.054	26.591	.306	1442.8
190.0	-1.507	.61636	33.082	26.614	.314	1442.7
195.0	-1.473	.61728	33.095	26.624	.321	1443.0
200.0	-1.433	.61851	33.121	26.644	.327	1443.3
210.0	-1.373	.62118	33.206	26.711	.341	1443.9
220.0	-1.280	.62527	33.337	26.815	.353	1444.6
230.0	-1.249	.62741	33.421	26.882	.365	1445.1
240.0	-1.149	.63103	33.516	26.956	.376	1445.8
250.0	-1.088	.63345	33.584	27.009	.387	1446.4
260.0	-.955	.63772	33.678	27.081	.397	1447.3
270.0	-.802	.64266	33.788	27.163	.406	1448.3
280.0	-.508	.65050	33.907	27.247	.414	1450.0
290.0	-.232	.65773	34.007	27.316	.422	1451.6
300.0	.032	.66466	34.102	27.379	.429	1453.1
310.0	.114	.66699	34.137	27.404	.436	1453.7
320.0	.128	.66752	34.145	27.409	.443	1453.9
323.4	.129	.66758	34.145	27.410	.445	1454.0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EXP 4840 73-11.6 N 90-50.4 W
DATE 30/03/83 GMT 2143
STN L02
TEMPERATURE (CELSIUS)
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-1
-2
+ = SURFACE FREEZING POINT
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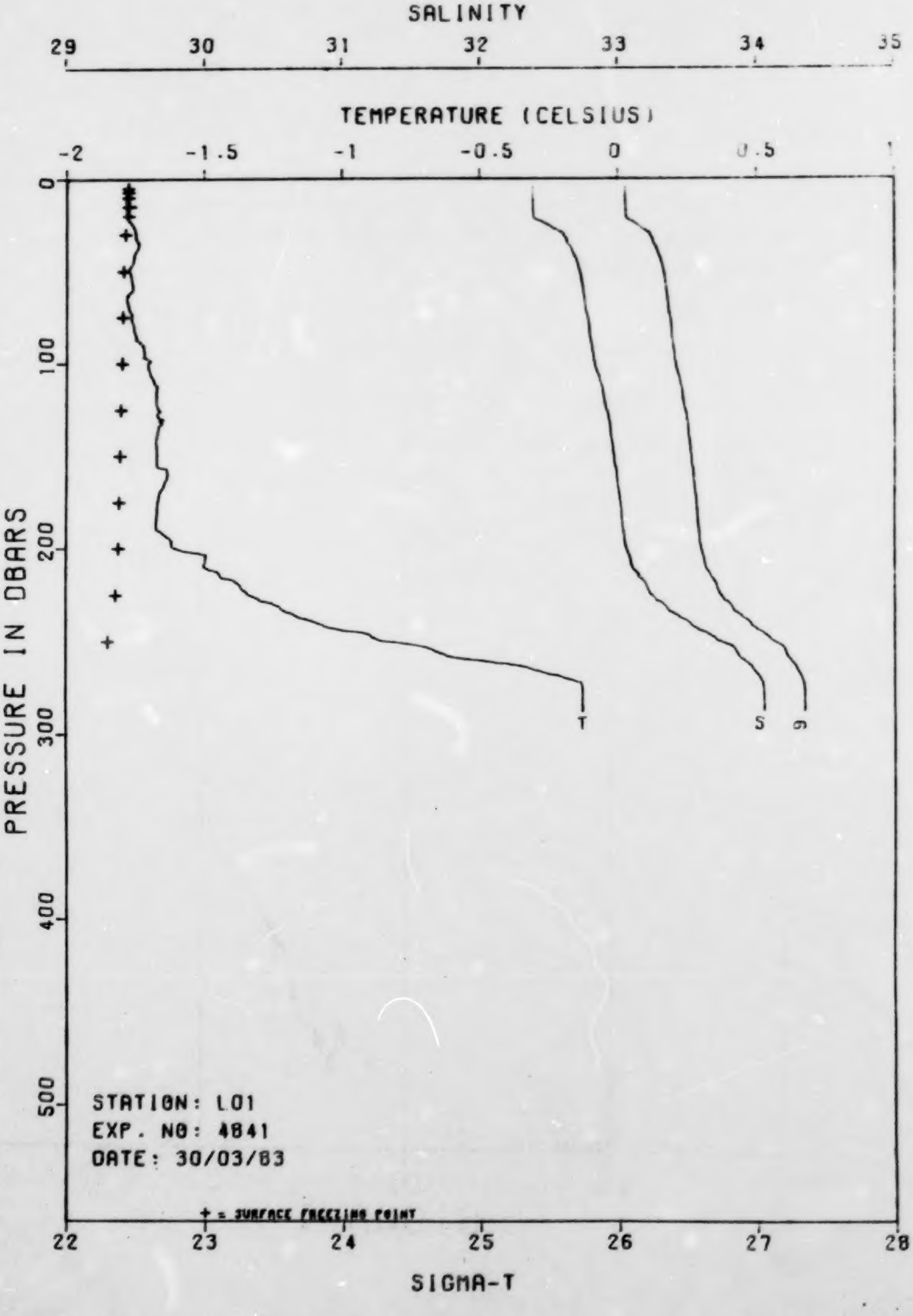
SIGMA-T



STATION: L01
EXP. NO: 4841
DATE: 30/03/83

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE L01   EXPERIMENT 4841

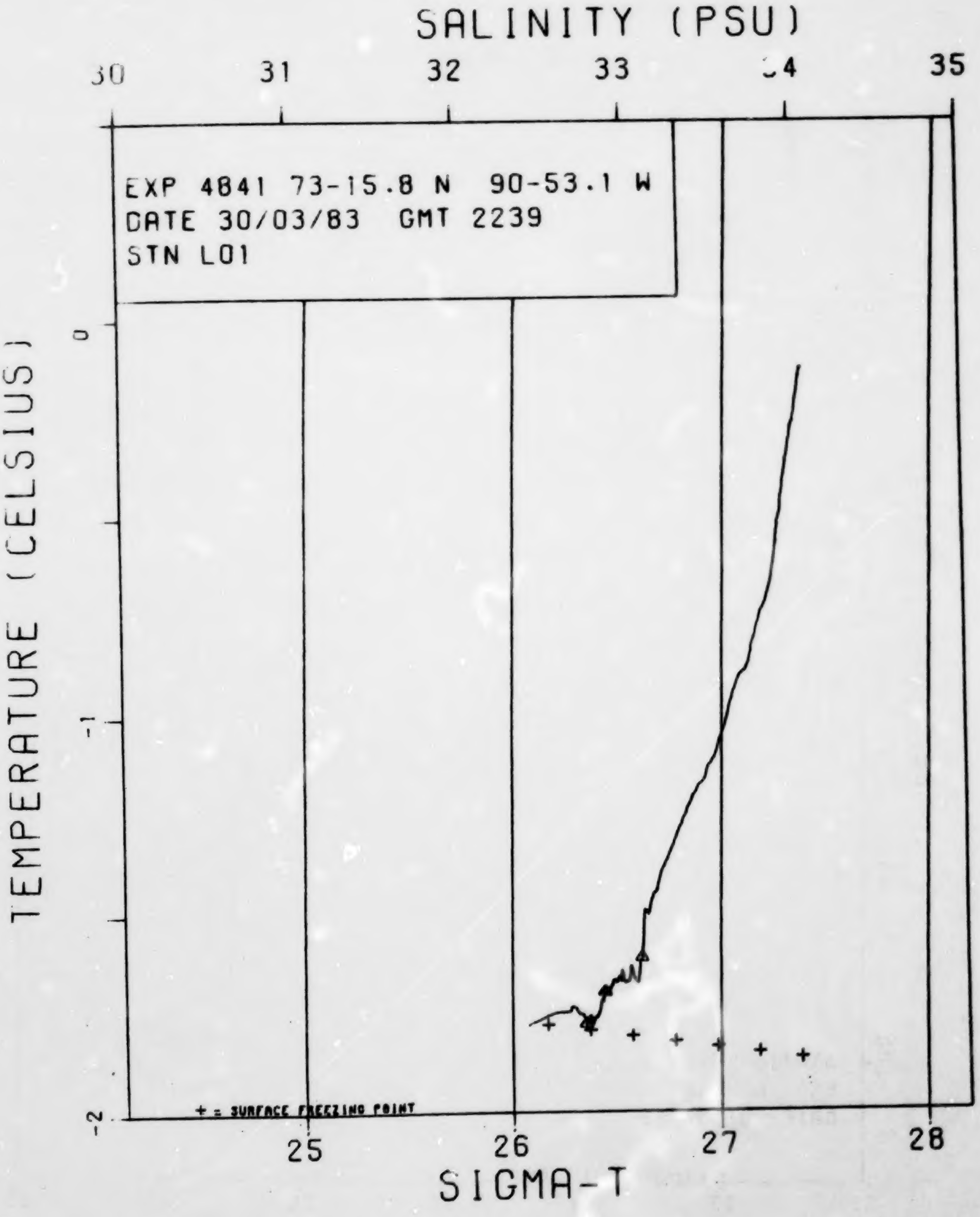
LAT.N. 73-15-47   LON.W. 90-53- 5   DATE 30/ 3/83   G.M.T. 2239

ICE THICKNESS 1.6 M   WATER DEPTH 289 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.780	.59758	32.383	26.053	.009	1437.4
5.0	-1.781	.59764	32.388	26.057	.010	1437.4
6.0	-1.781	.59766	32.388	26.057	.012	1437.4
7.0	-1.780	.59763	32.384	26.054	.014	1437.4
8.0	-1.779	.59765	32.384	26.054	.016	1437.5
9.0	-1.780	.59766	32.384	26.054	.018	1437.5
10.0	-1.780	.59767	32.384	26.054	.019	1437.5
11.0	-1.780	.59768	32.385	26.054	.021	1437.5
12.0	-1.780	.59770	32.385	26.055	.023	1437.5
13.0	-1.780	.59771	32.386	26.055	.025	1437.5
14.0	-1.780	.59774	32.387	26.056	.027	1437.6
15.0	-1.780	.59776	32.387	26.056	.029	1437.6
16.0	-1.779	.59778	32.387	26.056	.031	1437.6
17.0	-1.779	.59779	32.387	26.056	.033	1437.6
18.0	-1.779	.59781	32.387	26.056	.035	1437.6
19.0	-1.779	.59783	32.388	26.057	.037	1437.7
20.0	-1.779	.59787	32.390	26.058	.039	1437.7
21.0	-1.778	.59791	32.390	26.059	.041	1437.7
22.0	-1.777	.59807	32.397	26.064	.043	1437.7
23.0	-1.770	.59873	32.430	26.090	.045	1437.8
24.0	-1.765	.59939	32.462	26.117	.047	1437.9
25.0	-1.760	.59986	32.484	26.134	.048	1438.0
27.5	-1.751	.60088	32.534	26.175	.053	1438.1
30.0	-1.749	.60215	32.605	26.233	.058	1438.3
32.5	-1.749	.60257	32.628	26.251	.062	1438.4
35.0	-1.736	.60294	32.635	26.256	.066	1438.5
37.5	-1.740	.60337	32.663	26.280	.071	1438.5
40.0	-1.748	.60342	32.673	26.288	.075	1438.5
42.5	-1.756	.60354	32.687	26.300	.079	1438.6
45.0	-1.757	.60384	32.705	26.314	.084	1438.6
47.5	-1.766	.60390	32.717	26.324	.088	1438.6
50.0	-1.777	.60384	32.724	26.330	.092	1438.6
55.0	-1.763	.60438	32.738	26.341	.100	1438.8
60.0	-1.758	.60470	32.749	26.350	.109	1438.9
65.0	-1.782	.60450	32.760	26.359	.117	1438.9
70.0	-1.773	.60483	32.766	26.364	.125	1439.0
75.0	-1.764	.60534	32.784	26.378	.133	1439.2
80.0	-1.754	.60575	32.794	26.386	.142	1439.3
85.0	-1.747	.60600	32.799	26.390	.150	1439.5
90.0	-1.724	.60669	32.811	26.400	.158	1439.7
95.0	-1.714	.60710	32.821	26.407	.166	1439.8
100.0	-1.707	.60753	32.836	26.419	.174	1439.9
105.0	-1.695	.60806	32.851	26.431	.182	1440.1
110.0	-1.681	.60876	32.874	26.450	.189	1440.3

SITE L01 EXPERIMENT 4641

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.673	.60930	32.894	26.465	.197	1440.4
120.0	-1.673	.60947	32.901	26.472	.205	1440.5
125.0	-1.667	.60989	32.916	26.484	.213	1440.7
130.0	-1.660	.61038	32.934	26.498	.220	1440.8
135.0	-1.668	.61045	32.945	26.507	.228	1440.9
140.0	-1.674	.61053	32.952	26.513	.235	1440.9
145.0	-1.673	.61078	32.963	26.522	.243	1441.0
150.0	-1.672	.61098	32.971	26.528	.250	1441.1
155.0	-1.672	.61114	32.978	26.534	.258	1441.2
160.0	-1.633	.61217	32.992	26.545	.265	1441.5
165.0	-1.644	.61210	32.997	26.549	.272	1441.5
170.0	-1.664	.61196	33.008	26.556	.280	1441.5
175.0	-1.669	.61207	33.018	26.566	.287	1441.6
180.0	-1.671	.61220	33.024	26.571	.294	1441.7
185.0	-1.674	.61225	33.027	26.574	.301	1441.8
190.0	-1.673	.61250	33.038	26.582	.308	1441.9
195.0	-1.625	.61357	33.045	26.587	.316	1442.2
200.0	-1.606	.61421	33.058	26.598	.323	1442.4
210.0	-1.504	.61693	33.101	26.629	.337	1443.1
220.0	-1.370	.62133	33.205	26.710	.350	1444.0
230.0	-1.252	.62572	33.325	26.804	.363	1444.9
240.0	-1.099	.63183	33.508	26.947	.375	1446.1
250.0	-.859	.64013	33.717	27.106	.385	1447.6
260.0	-.534	.64954	33.892	27.237	.393	1449.6
270.0	-.196	.65848	34.021	27.326	.401	1451.5
280.0	-.128	.66045	34.052	27.347	.408	1452.0
288.2	-.129	.66053	34.054	27.349	.414	1452.1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EXP 4841 73-15.8 N 90-53.1 W
DATE 30/03/83 GMT 2239
STN L01
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+ = SURFACE FREEZING POINT
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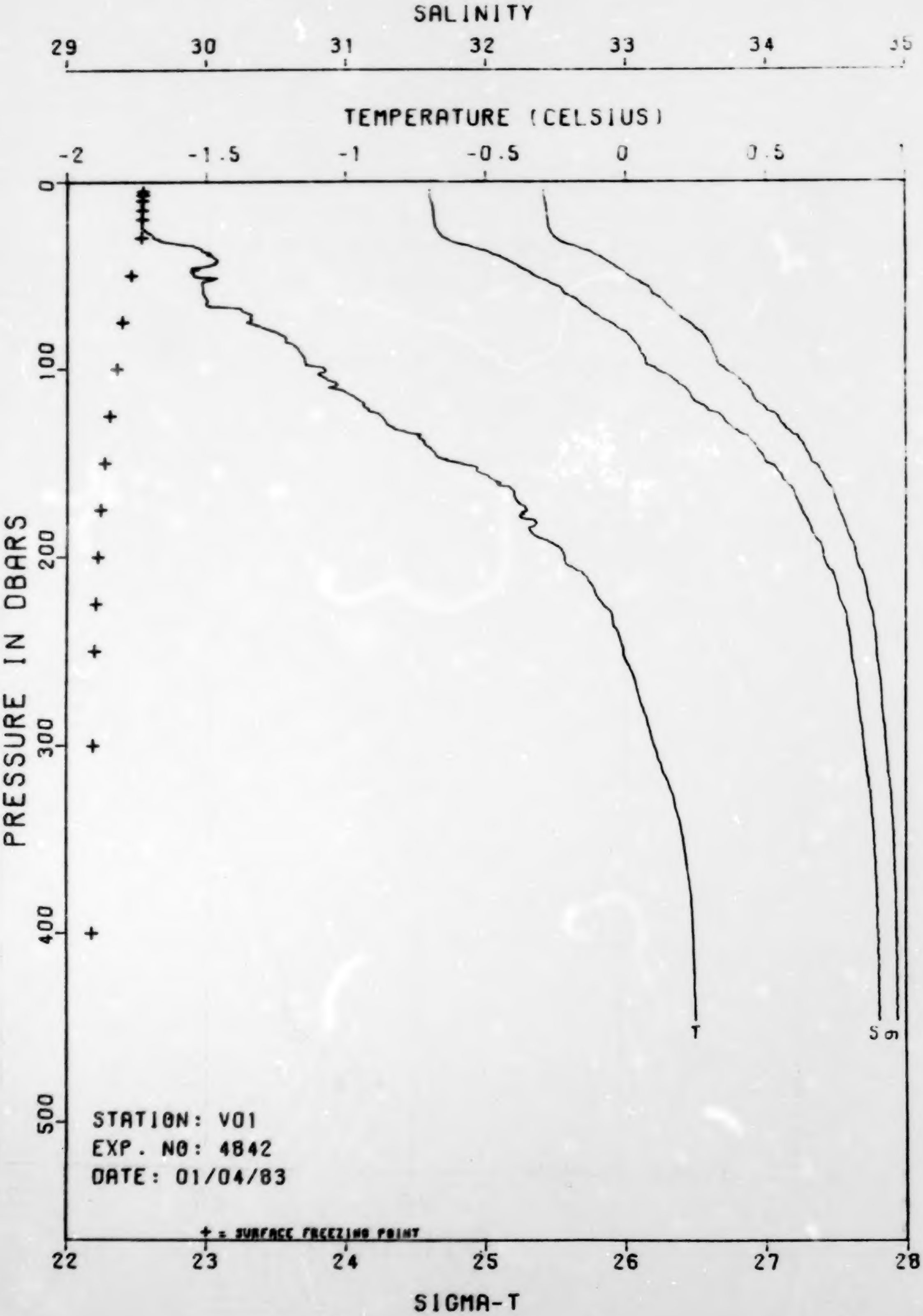
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: V01
EXP. NO: 4842
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE V01 EXPERIMENT 4842

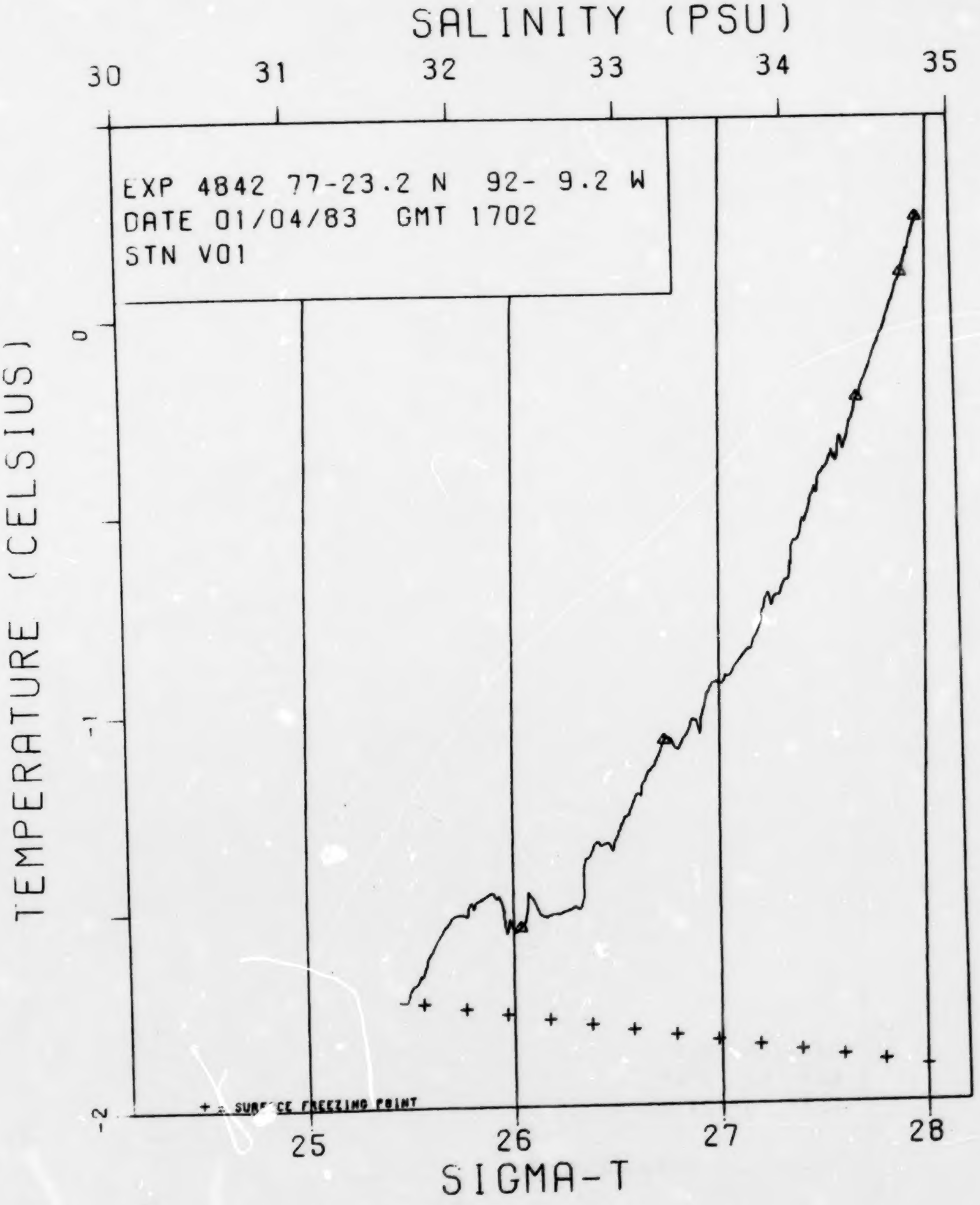
LAT.N. 77-23-12 LON.W. 92- 9-12 DATE 1/ 4/83 G.M.T. 1702

ICE THICKNESS 1.5 M WATER DEPTH 445 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.730	.58531	31.601	25.416	.011	1436.5
5.0	-1.730	.58533	31.601	25.416	.013	1436.5
6.0	-1.731	.58533	31.601	25.416	.015	1436.6
7.0	-1.730	.58532	31.599	25.415	.018	1436.6
8.0	-1.730	.58534	31.599	25.415	.020	1436.6
9.0	-1.733	.58547	31.609	25.423	.023	1436.6
10.0	-1.732	.58550	31.610	25.424	.026	1436.6
11.0	-1.732	.58553	31.611	25.424	.028	1436.7
12.0	-1.733	.58569	31.621	25.433	.031	1436.7
13.0	-1.734	.58575	31.625	25.436	.033	1436.7
14.0	-1.733	.58578	31.625	25.436	.036	1436.7
15.0	-1.733	.58581	31.627	25.437	.038	1436.7
16.0	-1.732	.58586	31.628	25.438	.041	1436.8
17.0	-1.732	.58589	31.629	25.439	.043	1436.8
18.0	-1.732	.58590	31.629	25.439	.046	1436.8
19.0	-1.733	.58591	31.631	25.440	.048	1436.8
20.0	-1.732	.58599	31.633	25.442	.051	1436.8
21.0	-1.732	.58603	31.635	25.444	.053	1436.8
22.0	-1.733	.58607	31.638	25.446	.056	1436.9
23.0	-1.733	.58613	31.641	25.449	.058	1436.9
24.0	-1.733	.58615	31.642	25.449	.061	1436.9
25.0	-1.734	.58619	31.644	25.451	.063	1436.9
27.5	-1.711	.58698	31.665	25.468	.070	1437.1
30.0	-1.691	.58786	31.694	25.491	.076	1437.3
32.5	-1.643	.58995	31.764	25.547	.082	1437.6
35.0	-1.540	.59409	31.898	25.654	.088	1438.4
37.5	-1.512	.59678	32.024	25.756	.094	1438.7
40.0	-1.478	.59855	32.091	25.809	.099	1439.0
42.5	-1.459	.60017	32.164	25.868	.105	1439.2
45.0	-1.488	.60073	32.227	25.920	.110	1439.2
47.5	-1.545	.60068	32.285	25.968	.115	1439.1
50.0	-1.546	.60160	32.338	26.011	.120	1439.2
55.0	-1.521	.60444	32.476	26.122	.130	1439.6
60.0	-1.514	.60617	32.567	26.197	.139	1439.8
65.0	-1.498	.60837	32.677	26.285	.147	1440.1
70.0	-1.365	.61237	32.763	26.352	.156	1441.0
75.0	-1.344	.61485	32.883	26.448	.164	1441.3
80.0	-1.259	.61844	32.998	26.539	.172	1442.0
85.0	-1.211	.62043	33.058	26.587	.179	1442.4
90.0	-1.168	.62207	33.104	26.622	.186	1442.7
95.0	-1.145	.62321	33.143	26.653	.193	1443.0
100.0	-1.076	.62584	33.216	26.710	.200	1443.5
105.0	-1.071	.62795	33.332	26.804	.206	1443.7
110.0	-1.065	.62977	33.428	26.881	.212	1444.0

SITE V01 EXPERIMENT 4542

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-.966	.63249	33.473	26.915	.216	1444.6
120.0	-.936	.63467	33.565	26.986	.223	1444.9
125.0	-.872	.63798	33.683	27.081	.226	1445.5
130.0	-.849	.63941	33.737	27.124	.233	1445.7
135.0	-.739	.64318	33.830	27.195	.237	1446.5
140.0	-.715	.64528	33.922	27.268	.242	1446.8
145.0	-.677	.64678	33.963	27.300	.245	1447.1
150.0	-.596	.64904	34.000	27.327	.249	1447.6
155.0	-.532	.65181	34.065	27.393	.253	1448.1
160.0	-.463	.65404	34.132	27.426	.256	1448.6
165.0	-.397	.65663	34.204	27.483	.259	1449.1
170.0	-.389	.65719	34.224	27.499	.262	1449.2
175.0	-.353	.65849	34.255	27.522	.265	1449.5
180.0	-.369	.65883	34.290	27.551	.267	1449.6
185.0	-.348	.65991	34.325	27.578	.270	1449.8
190.0	-.310	.66120	34.354	27.600	.272	1450.1
195.0	-.236	.66354	34.401	27.634	.275	1450.6
200.0	-.217	.66424	34.417	27.646	.277	1450.8
210.0	-.148	.66688	34.483	27.697	.281	1451.3
220.0	-.106	.66843	34.518	27.723	.285	1451.7
230.0	-.051	.67063	34.575	27.766	.288	1452.2
240.0	-.027	.67157	34.596	27.782	.291	1452.5
250.0	-.007	.67231	34.609	27.791	.294	1452.8
260.0	.016	.67320	34.628	27.805	.297	1453.1
270.0	.040	.67418	34.650	27.822	.300	1453.4
280.0	.060	.67491	34.664	27.832	.302	1453.7
290.0	.081	.67586	34.688	27.850	.305	1454.0
300.0	.102	.67659	34.700	27.858	.307	1454.3
310.0	.126	.67761	34.725	27.877	.310	1454.6
320.0	.151	.67839	34.734	27.883	.312	1454.9
330.0	.172	.67923	34.751	27.896	.314	1455.1
340.0	.191	.68001	34.769	27.909	.316	1455.4
350.0	.203	.68040	34.770	27.910	.318	1455.6
360.0	.215	.68088	34.778	27.916	.320	1455.9
370.0	.223	.68125	34.784	27.920	.321	1456.1
380.0	.232	.68176	34.797	27.929	.323	1456.3
390.0	.238	.68206	34.802	27.933	.325	1456.5
400.0	.240	.68216	34.798	27.930	.327	1456.7
425.0	.246	.68276	34.811	27.940	.331	1457.1
446.6	.251	.68299	34.805	27.935	.334	1457.5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EXP 4842 77-23.2 N 92- 9.2 W
DATE 01/04/83 GMT 1702
STN V01
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+ = SURFACE FREEZING POINT
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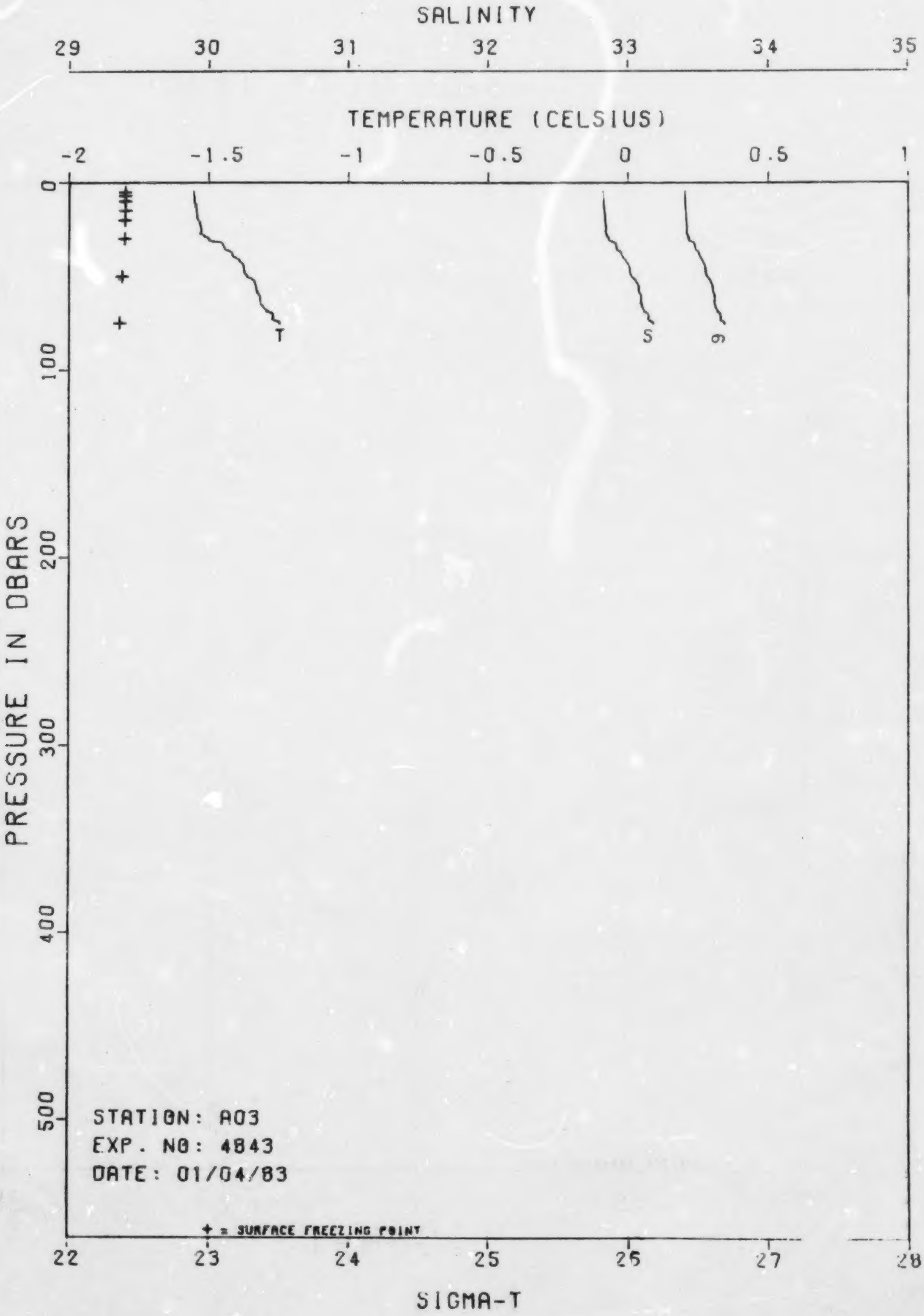
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A03
EXP. NO: 4843
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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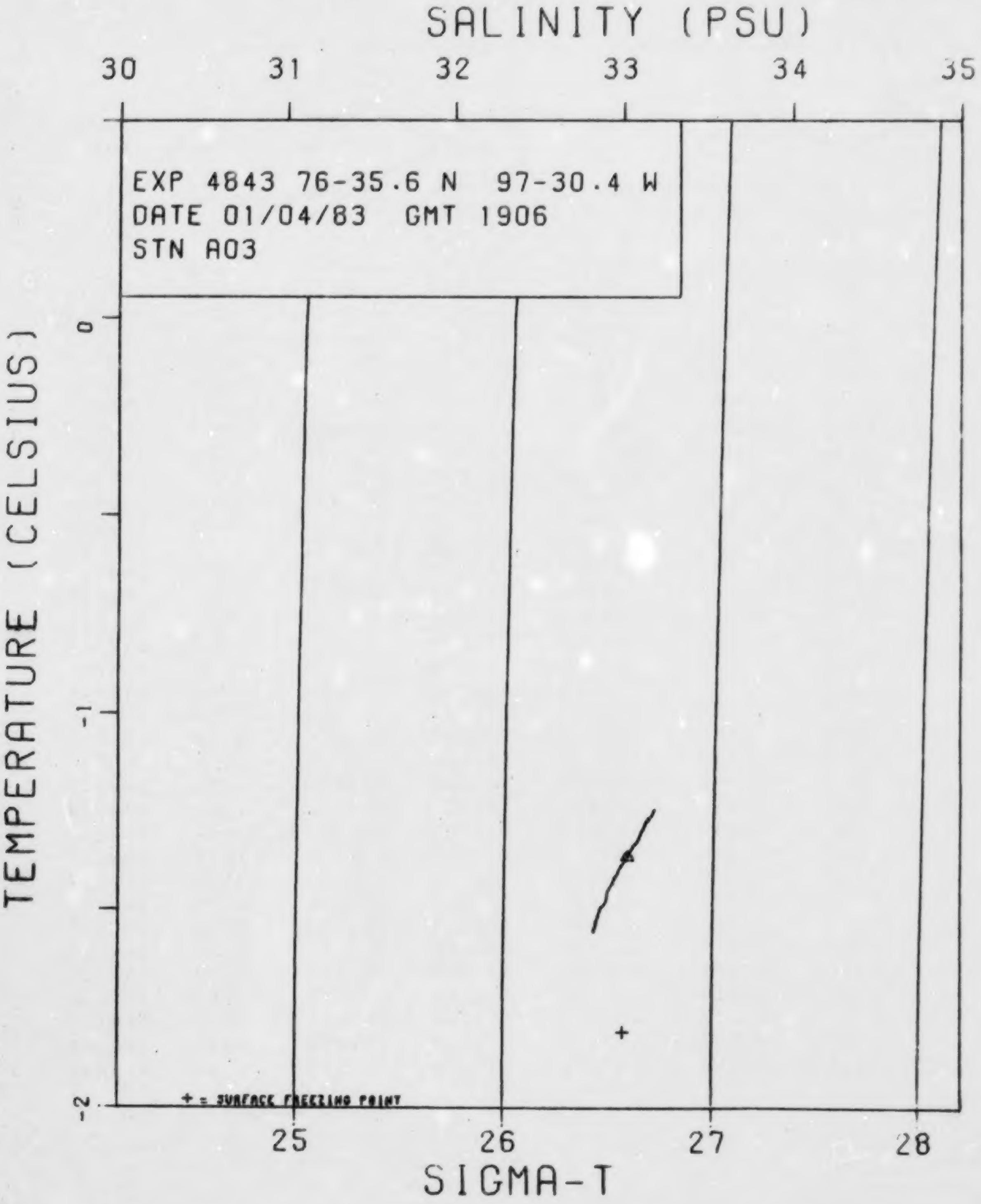
SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE A03   EXPERIMENT 4843

LAT.N. 76-35-35   LON.W. 97-30-24   DATE 1/ 4/83   G.M.T. 1906

ICE THICKNESS .5 M   WATER DEPTH 78 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.556	.60915	32.824	26.406	.007	1439.1
5.0	-1.556	.60915	32.824	26.406	.008	1439.1
6.0	-1.554	.60921	32.824	26.406	.010	1439.1
7.0	-1.553	.60922	32.824	26.406	.011	1439.1
8.0	-1.552	.60922	32.822	26.404	.013	1439.2
9.0	-1.553	.60923	32.823	26.405	.014	1439.2
10.0	-1.551	.60936	32.827	26.408	.016	1439.2
11.0	-1.551	.60935	32.826	26.408	.018	1439.2
12.0	-1.549	.60934	32.822	26.404	.019	1439.2
13.0	-1.546	.60957	32.832	26.412	.021	1439.3
14.0	-1.546	.60949	32.828	26.409	.023	1439.3
15.0	-1.543	.60972	32.837	26.416	.024	1439.3
16.0	-1.545	.60961	32.831	26.412	.026	1439.3
17.0	-1.541	.60965	32.829	26.410	.027	1439.4
18.0	-1.541	.60974	32.834	26.414	.029	1439.4
19.0	-1.540	.60971	32.831	26.411	.031	1439.4
20.0	-1.542	.60967	32.829	26.410	.032	1439.4
21.0	-1.532	.60998	32.837	26.416	.034	1439.5
22.0	-1.531	.60997	32.834	26.413	.035	1439.5
23.0	-1.529	.61009	32.839	26.417	.037	1439.5
24.0	-1.529	.61016	32.842	26.420	.039	1439.6
25.0	-1.527	.61021	32.842	26.420	.040	1439.6
27.5	-1.534	.61003	32.837	26.416	.044	1439.6
30.0	-1.499	.61113	32.863	26.436	.048	1439.8
32.5	-1.448	.61293	32.912	26.474	.052	1440.2
35.0	-1.442	.61325	32.922	26.482	.056	1440.3
37.5	-1.419	.61413	32.947	26.502	.060	1440.4
40.0	-1.410	.61458	32.962	26.514	.064	1440.6
42.5	-1.386	.61547	32.987	26.534	.067	1440.7
45.0	-1.373	.61616	33.011	26.553	.071	1440.9
47.5	-1.371	.61625	33.012	26.554	.075	1440.9
50.0	-1.362	.61664	33.024	26.563	.078	1441.0
55.0	-1.329	.61820	33.076	26.604	.085	1441.3
60.0	-1.321	.61860	33.088	26.614	.093	1441.5
65.0	-1.314	.61888	33.093	26.618	.100	1441.6
70.0	-1.277	.62029	33.132	26.649	.107	1441.9
75.0	-1.247	.62172	33.180	26.686	.113	1442.2
75.5	-1.243	.62186	33.184	26.689	.114	1442.2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DATE 01/04/83 GMT 1906
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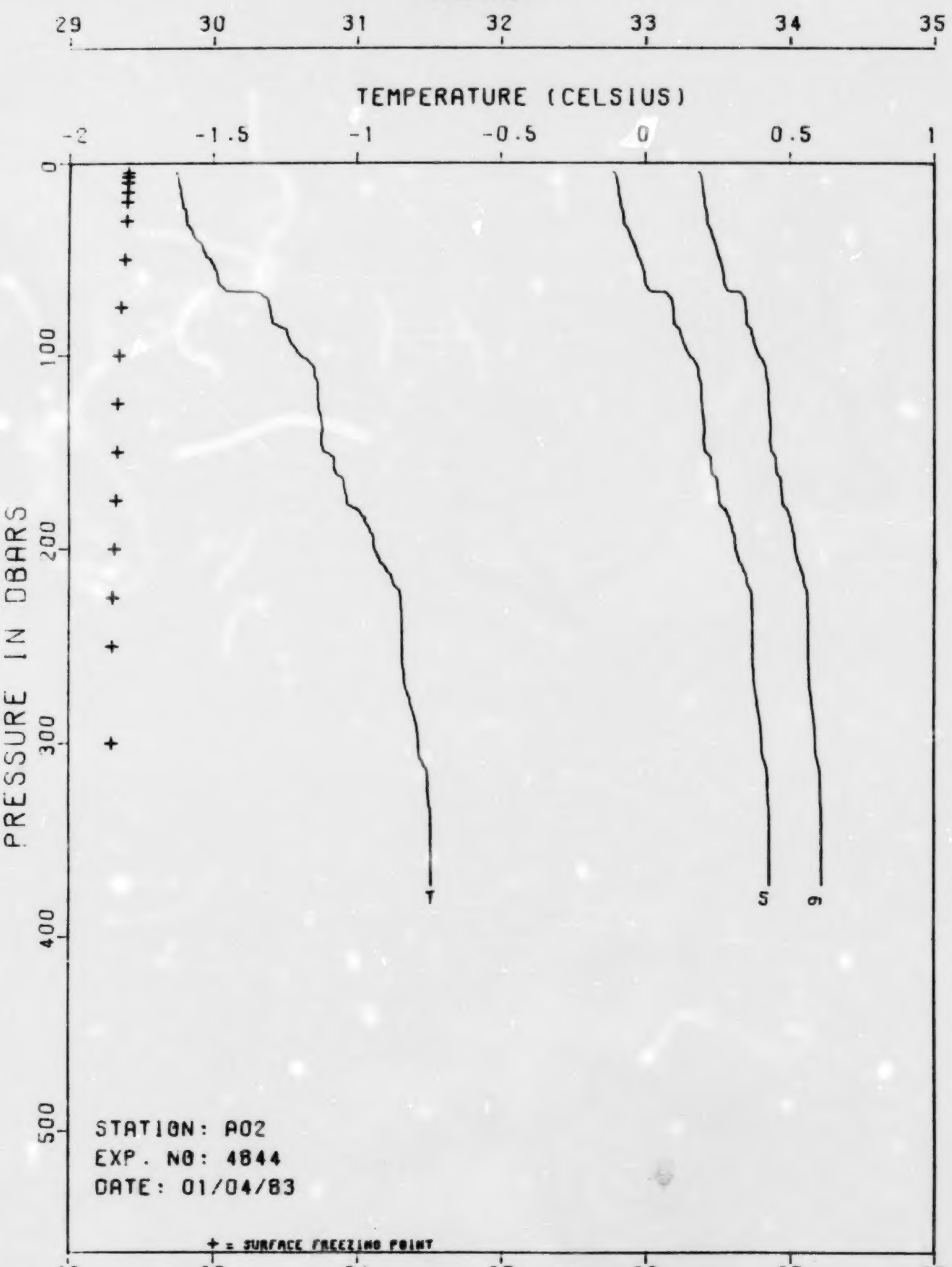
SIGMA-T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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4844
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE A02   EXPERIMENT 4644

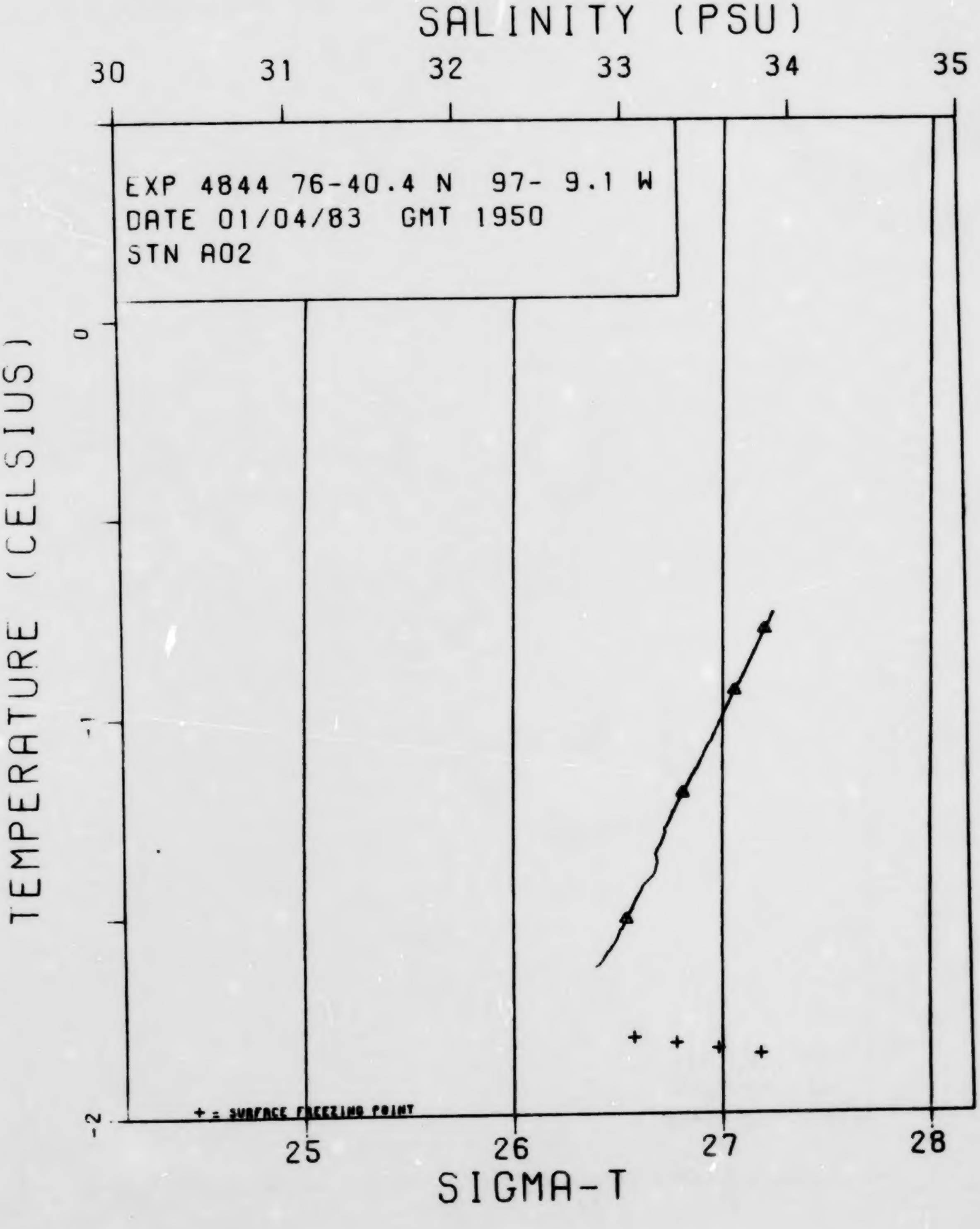
LAT.N. 76-40-24   LON.W. 97- 9- 6   DATE 1/ 4/83   G.M.T. 1950

ICE THICKNESS 1.0 M   WATER DEPTH 373 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.9	-1.629	.60699	32.776	26.369	.008	1438.7
5.0	-1.626	.60715	32.782	26.374	.008	1438.7
6.0	-1.625	.60739	32.795	26.385	.010	1438.7
7.0	-1.623	.60748	32.798	26.386	.012	1438.8
8.0	-1.621	.60756	32.799	26.387	.013	1438.8
9.0	-1.620	.60768	32.804	26.392	.015	1438.8
10.0	-1.620	.60770	32.805	26.392	.017	1438.8
11.0	-1.618	.60777	32.807	26.394	.018	1438.9
12.0	-1.618	.60784	32.809	26.396	.020	1438.9
13.0	-1.614	.60799	32.814	26.399	.021	1438.9
14.0	-1.613	.60806	32.816	26.401	.023	1439.0
15.0	-1.613	.60806	32.816	26.401	.025	1439.0
16.0	-1.614	.60803	32.815	26.400	.026	1439.0
17.0	-1.611	.60815	32.818	26.402	.028	1439.0
18.0	-1.611	.60818	32.819	26.404	.029	1439.0
19.0	-1.607	.60839	32.826	26.409	.031	1439.1
20.0	-1.606	.60841	32.826	26.409	.033	1439.1
21.0	-1.606	.60843	32.826	26.409	.034	1439.1
22.0	-1.605	.60849	32.827	26.410	.036	1439.1
23.0	-1.606	.60846	32.827	26.410	.037	1439.2
24.0	-1.600	.60879	32.839	26.419	.039	1439.2
25.0	-1.594	.60899	32.844	26.423	.041	1439.3
27.5	-1.592	.60910	32.847	26.426	.045	1439.3
30.0	-1.594	.60910	32.847	26.425	.049	1439.4
32.5	-1.590	.60926	32.851	26.429	.053	1439.4
35.0	-1.573	.61015	32.883	26.455	.057	1439.6
37.5	-1.569	.61042	32.893	26.462	.060	1439.7
40.0	-1.559	.61082	32.904	26.471	.064	1439.8
42.5	-1.538	.61154	32.922	26.485	.068	1439.9
45.0	-1.533	.61185	32.933	26.494	.072	1440.0
47.5	-1.526	.61218	32.943	26.502	.076	1440.1
50.0	-1.509	.61282	32.961	26.516	.080	1440.2
55.0	-1.493	.61350	32.981	26.532	.087	1440.4
60.0	-1.482	.61403	32.996	26.544	.094	1440.6
65.0	-1.462	.61481	33.018	26.561	.102	1440.8
70.0	-1.321	.62011	33.170	26.681	.109	1441.8
75.0	-1.300	.62092	33.192	26.697	.115	1442.0
80.0	-1.297	.62105	33.193	26.698	.122	1442.1
85.0	-1.272	.62185	33.210	26.711	.129	1442.3
90.0	-1.239	.62315	33.245	26.739	.135	1442.6
95.0	-1.217	.62407	33.273	26.761	.142	1442.8
100.0	-1.194	.62504	33.301	26.783	.148	1443.0
105.0	-1.154	.62679	33.355	26.825	.154	1443.4
110.0	-1.146	.62715	33.365	26.833	.160	1443.5

SITE A02 EXPERIMENT 4844

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.135	.62772	33.383	26.848	.166	1443.7
120.0	-1.134	.62784	33.386	26.850	.172	1443.8
125.0	-1.131	.62801	33.390	26.853	.178	1443.9
130.0	-1.128	.62822	33.395	26.857	.184	1444.0
135.0	-1.120	.62854	33.403	26.863	.190	1444.1
140.0	-1.119	.62867	33.405	26.865	.195	1444.2
145.0	-1.122	.62855	33.399	26.860	.201	1444.2
150.0	-1.116	.62887	33.409	26.866	.207	1444.4
155.0	-1.080	.63034	33.450	26.900	.213	1444.7
160.0	-1.076	.63053	33.454	26.903	.219	1444.8
165.0	-1.045	.63186	33.494	26.934	.224	1445.1
170.0	-1.039	.63214	33.502	26.940	.230	1445.2
175.0	-1.034	.63239	33.507	26.944	.235	1445.3
180.0	-.997	.63384	33.547	26.975	.240	1445.6
185.0	-.973	.63499	33.565	27.005	.246	1445.9
190.0	-.955	.63560	33.597	27.015	.251	1446.0
195.0	-.943	.63618	33.614	27.028	.256	1446.2
200.0	-.940	.63639	33.620	27.033	.261	1446.3
210.0	-.900	.63813	33.671	27.073	.271	1446.7
220.0	-.864	.63967	33.713	27.106	.280	1447.1
230.0	-.848	.64041	33.732	27.120	.290	1447.4
240.0	-.844	.64066	33.737	27.124	.299	1447.6
250.0	-.843	.64080	33.738	27.125	.308	1447.7
260.0	-.840	.64101	33.741	27.127	.317	1447.9
270.0	-.834	.64136	33.749	27.133	.326	1448.1
280.0	-.815	.64218	33.768	27.148	.335	1448.4
290.0	-.794	.64311	33.793	27.167	.344	1448.7
300.0	-.786	.64352	33.802	27.174	.353	1448.9
310.0	-.770	.64434	33.825	27.192	.362	1449.2
320.0	-.756	.64502	33.843	27.206	.370	1449.4
330.0	-.751	.64530	33.847	27.210	.379	1449.6
340.0	-.745	.64563	33.854	27.214	.387	1449.8
350.0	-.745	.64574	33.854	27.215	.395	1450.0
360.0	-.744	.64586	33.854	27.215	.403	1450.2
370.0	-.744	.64599	33.856	27.216	.412	1450.3
373.8	-.743	.64604	33.854	27.215	.415	1450.4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DATE 01/04/83 GMT 1950
STN A02
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+ = SURFACE FREEZING POINT
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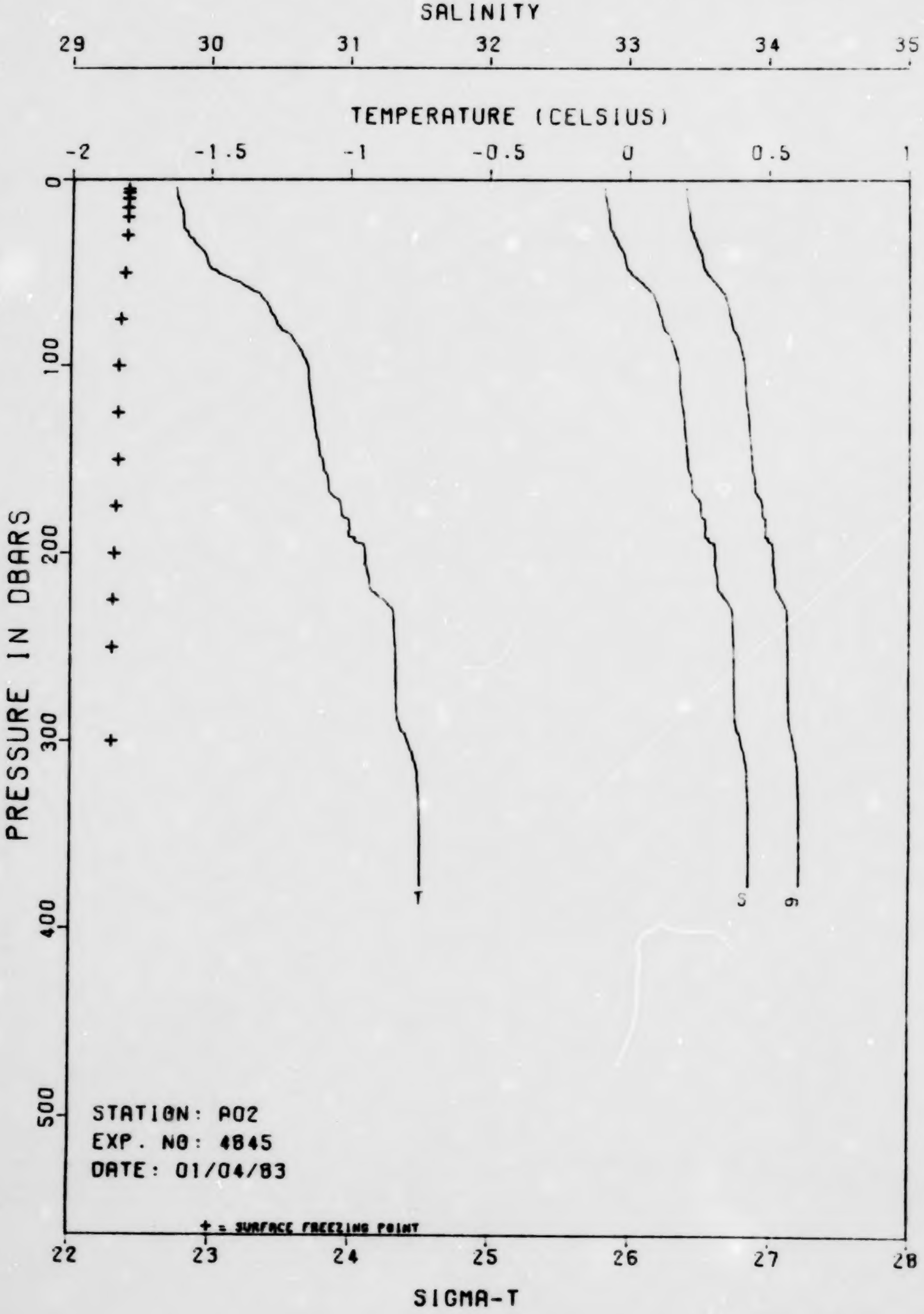
SIGMA-T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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4845
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A02 EXPERIMENT 4845

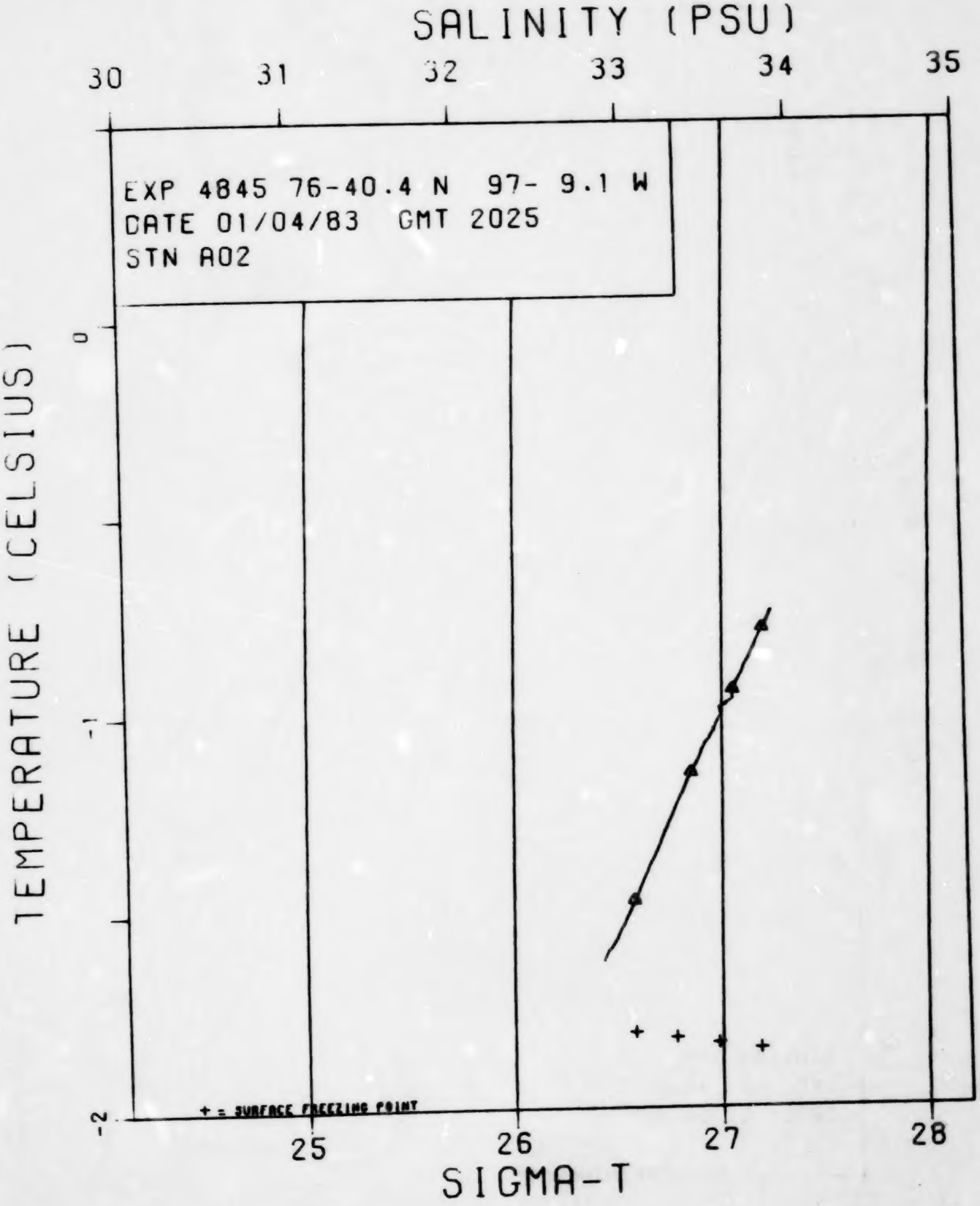
LAT.N. 76-40-24 LON.W. 97- 9- 6 DATE 1/ 4/83 G.M.T. 2025

ICE THICKNESS 1.0 M WATER DEPTH 373 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.4	-1.627	.60778	32.821	26.405	.007	1438.7
5.0	-1.626	.60779	32.820	26.405	.008	1438.8
6.0	-1.624	.60787	32.822	26.406	.010	1438.8
7.0	-1.625	.60785	32.822	26.406	.011	1438.8
8.0	-1.623	.60791	32.822	26.406	.013	1438.8
9.0	-1.624	.60791	32.823	26.407	.014	1438.8
10.0	-1.617	.60822	32.832	26.414	.016	1438.9
11.0	-1.619	.60809	32.827	26.410	.018	1438.9
12.0	-1.616	.60827	32.834	26.415	.019	1438.9
13.0	-1.614	.60835	32.835	26.417	.021	1439.0
14.0	-1.613	.60843	32.838	26.419	.023	1439.0
15.0	-1.610	.60852	32.840	26.420	.024	1439.0
16.0	-1.606	.60867	32.843	26.423	.026	1439.1
17.0	-1.603	.60882	32.848	26.427	.027	1439.1
18.0	-1.602	.60889	32.851	26.429	.029	1439.1
19.0	-1.601	.60893	32.851	26.429	.030	1439.1
20.0	-1.601	.60892	32.851	26.429	.032	1439.2
21.0	-1.602	.60894	32.852	26.430	.034	1439.2
22.0	-1.601	.60900	32.854	26.432	.035	1439.2
23.0	-1.601	.60899	32.852	26.430	.037	1439.2
24.0	-1.599	.60912	32.857	26.434	.038	1439.2
25.0	-1.599	.60912	32.857	26.434	.040	1439.3
27.5	-1.594	.60946	32.870	26.444	.044	1439.3
30.0	-1.583	.60995	32.885	26.456	.048	1439.5
32.5	-1.562	.61076	32.909	26.475	.052	1439.6
35.0	-1.554	.61114	32.921	26.484	.056	1439.7
37.5	-1.535	.61191	32.943	26.502	.059	1439.9
40.0	-1.523	.61239	32.957	26.513	.063	1440.0
42.5	-1.515	.61274	32.968	26.522	.067	1440.1
45.0	-1.511	.61294	32.973	26.526	.071	1440.2
47.5	-1.504	.61321	32.981	26.532	.074	1440.3
50.0	-1.475	.61431	33.012	26.556	.078	1440.5
55.0	-1.404	.61692	33.084	26.613	.085	1441.0
60.0	-1.351	.61903	33.146	26.662	.092	1441.4
65.0	-1.310	.62052	33.185	26.692	.099	1441.7
70.0	-1.286	.62140	33.209	26.711	.106	1442.0
75.0	-1.267	.62219	33.230	26.728	.112	1442.2
80.0	-1.249	.62293	33.250	26.743	.119	1442.4
85.0	-1.208	.62458	33.298	26.781	.125	1442.7
90.0	-1.186	.62537	33.318	26.796	.131	1442.9
95.0	-1.169	.62608	33.337	26.811	.137	1443.1
100.0	-1.153	.62672	33.354	26.824	.143	1443.3
105.0	-1.150	.62692	33.359	26.828	.149	1443.4
110.0	-1.147	.62707	33.361	26.830	.155	1443.5

SITE A02 EXPERIMENT 4845

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.143	.62730	33.367	26.835	.161	1443.6
120.0	-1.137	.62752	33.371	26.836	.167	1443.7
125.0	-1.133	.62795	33.387	26.851	.173	1443.8
130.0	-1.126	.62823	33.394	26.856	.179	1444.0
135.0	-1.123	.62839	33.397	26.859	.185	1444.1
140.0	-1.113	.62876	33.406	26.865	.191	1444.2
145.0	-1.111	.62894	33.410	26.868	.197	1444.3
150.0	-1.098	.62884	33.386	26.848	.203	1444.4
155.0	-1.095	.62960	33.424	26.879	.208	1444.6
160.0	-1.078	.63034	33.446	26.896	.214	1444.8
165.0	-1.077	.63045	33.447	26.896	.220	1444.8
170.0	-1.055	.63154	33.484	26.927	.225	1445.1
175.0	-1.032	.63251	33.512	26.948	.231	1445.3
180.0	-1.028	.63268	33.514	26.950	.236	1445.4
185.0	-1.000	.63381	33.546	26.975	.242	1445.7
190.0	-1.004	.63372	33.542	26.972	.247	1445.7
195.0	-.950	.63603	33.614	27.028	.252	1446.2
200.0	-.944	.63623	33.616	27.029	.257	1446.3
210.0	-.935	.63668	33.625	27.037	.267	1446.5
220.0	-.921	.63742	33.646	27.053	.277	1446.8
230.0	-.844	.64057	33.738	27.125	.287	1447.4
240.0	-.839	.64086	33.743	27.128	.296	1447.6
250.0	-.834	.64115	33.748	27.132	.305	1447.8
260.0	-.833	.64131	33.750	27.134	.314	1448.0
270.0	-.831	.64145	33.750	27.134	.323	1448.1
280.0	-.830	.64160	33.752	27.135	.332	1448.3
290.0	-.820	.64204	33.760	27.142	.342	1448.5
300.0	-.789	.64340	33.798	27.172	.350	1448.9
310.0	-.769	.64437	33.826	27.193	.359	1449.2
320.0	-.755	.64499	33.840	27.204	.367	1449.4
330.0	-.750	.64532	33.847	27.210	.376	1449.6
340.0	-.747	.64550	33.849	27.210	.384	1449.8
350.0	-.747	.64563	33.850	27.211	.393	1450.0
360.0	-.746	.64575	33.849	27.211	.401	1450.2
370.0	-.746	.64588	33.851	27.213	.409	1450.3
377.6	-.745	.64599	33.851	27.213	.416	1450.5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DATE 01/04/83 GMT 2025
STN A02
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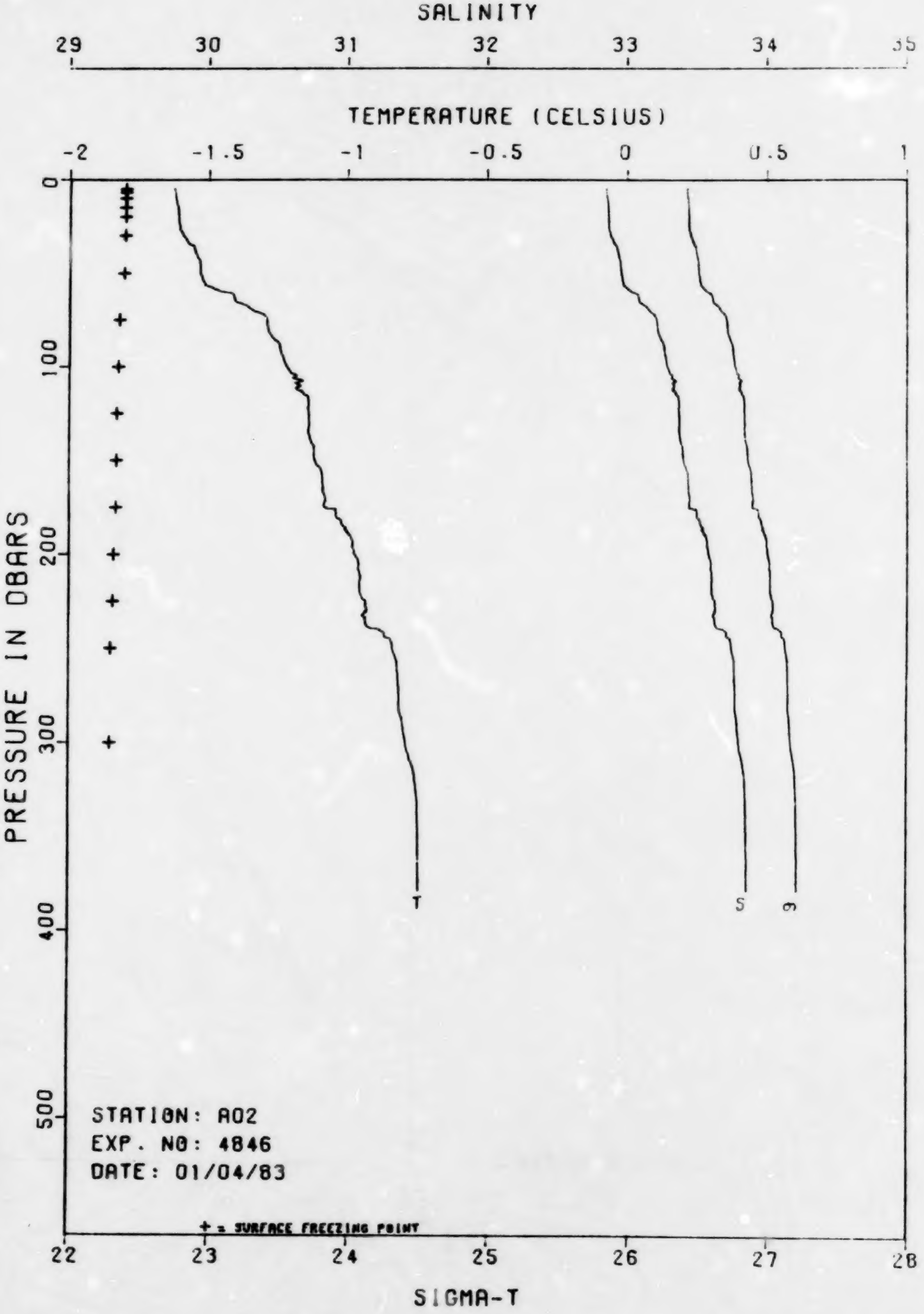
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4846
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A02 EXPERIMENT 4846

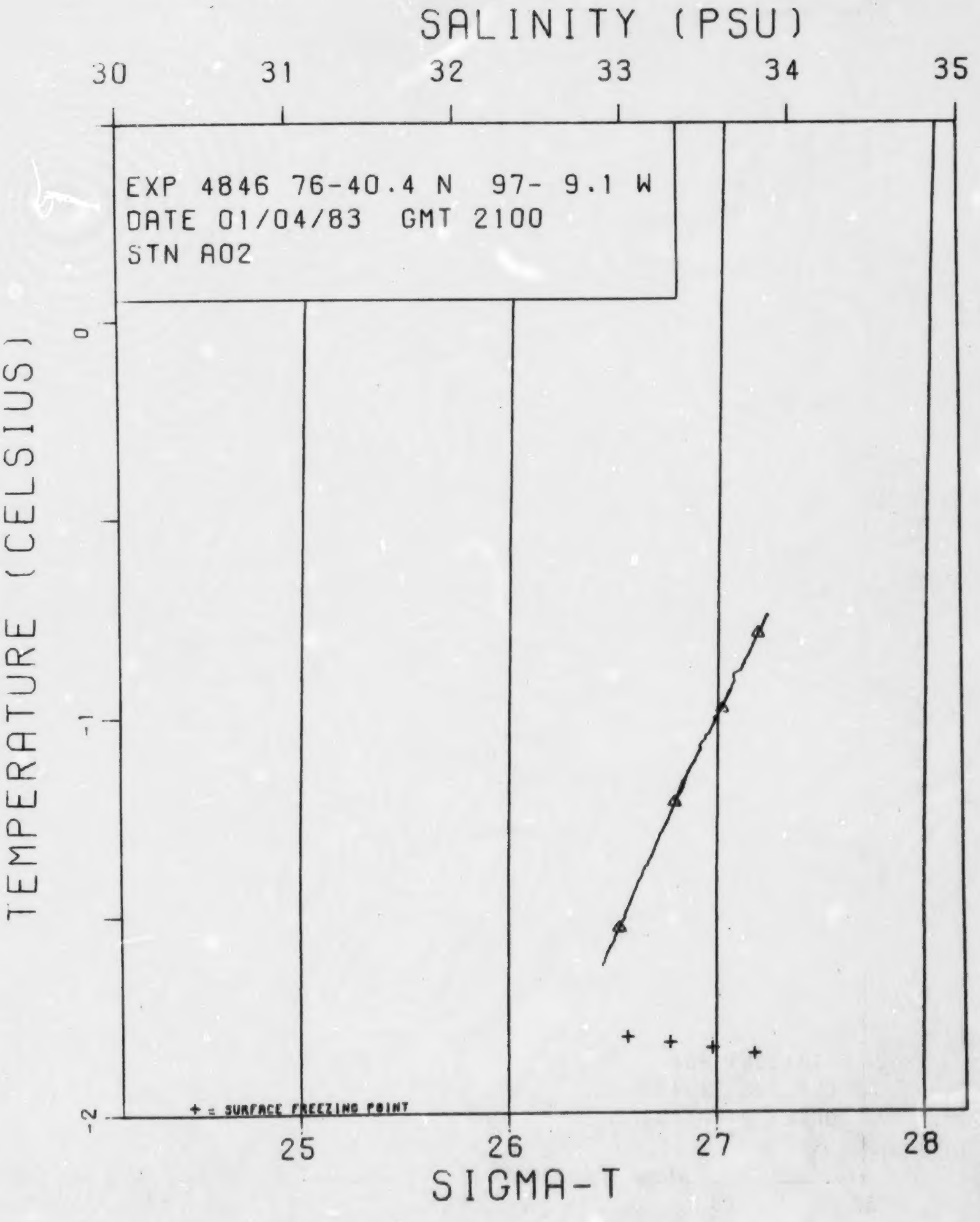
LAT.N. 76-40-24 LON.W. 97- 9- 6 DATE 1/ 4/83 G.M.T. 2100

ICE THICKNESS 1.0 M WATER DEPTH 375 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.8	-1.626	.60830	32.850	26.429	.008	1438.8
5.0	-1.625	.60828	32.848	26.428	.008	1438.8
6.0	-1.624	.60825	32.845	26.425	.010	1438.8
7.0	-1.622	.60838	32.850	26.428	.011	1438.9
8.0	-1.622	.60843	32.851	26.430	.013	1438.9
9.0	-1.621	.60845	32.852	26.430	.014	1438.9
10.0	-1.622	.60853	32.857	26.434	.016	1438.9
11.0	-1.620	.60865	32.860	26.437	.017	1438.9
12.0	-1.616	.60871	32.860	26.437	.019	1439.0
13.0	-1.616	.60873	32.860	26.437	.021	1439.0
14.0	-1.615	.60876	32.861	26.437	.022	1439.0
15.0	-1.611	.60888	32.862	26.438	.024	1439.1
16.0	-1.613	.60888	32.864	26.440	.025	1439.1
17.0	-1.610	.60894	32.863	26.439	.027	1439.1
18.0	-1.611	.60894	32.864	26.439	.029	1439.1
19.0	-1.611	.60896	32.864	26.440	.030	1439.1
20.0	-1.610	.60898	32.864	26.440	.032	1439.1
21.0	-1.609	.60902	32.865	26.440	.033	1439.2
22.0	-1.610	.60902	32.865	26.441	.035	1439.2
23.0	-1.609	.60904	32.864	26.440	.036	1439.2
24.0	-1.609	.60906	32.865	26.441	.038	1439.2
25.0	-1.605	.60913	32.865	26.441	.040	1439.2
27.5	-1.606	.60920	32.867	26.442	.043	1439.3
30.0	-1.594	.60964	32.879	26.452	.047	1439.4
32.5	-1.580	.61022	32.897	26.466	.051	1439.5
35.0	-1.569	.61068	32.910	26.476	.055	1439.6
37.5	-1.551	.61132	32.927	26.490	.059	1439.8
40.0	-1.546	.61156	32.933	26.494	.063	1439.9
42.5	-1.538	.61192	32.944	26.503	.067	1440.0
45.0	-1.532	.61213	32.948	26.506	.070	1440.0
47.5	-1.533	.61216	32.950	26.508	.074	1440.1
50.0	-1.532	.61223	32.951	26.509	.078	1440.1
55.0	-1.517	.61283	32.967	26.522	.085	1440.3
60.0	-1.453	.61515	33.031	26.571	.093	1440.8
65.0	-1.405	.61697	33.083	26.612	.100	1441.2
70.0	-1.340	.61954	33.158	26.671	.107	1441.6
75.0	-1.289	.62143	33.210	26.712	.114	1442.0
80.0	-1.287	.62159	33.214	26.715	.120	1442.1
85.0	-1.265	.62249	33.239	26.735	.127	1442.4
90.0	-1.242	.62339	33.263	26.754	.133	1442.6
95.0	-1.229	.62385	33.273	26.761	.139	1442.7
100.0	-1.216	.62434	33.284	26.770	.146	1442.9
105.0	-1.178	.62581	33.325	26.802	.152	1443.2
110.0	-1.180	.62593	33.331	26.807	.158	1443.3

SITE A02 EXPERIMENT 4846

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.156	.62675	33.349	26.821	.164	1443.5
120.0	-1.139	.62743	33.368	26.835	.170	1443.7
125.0	-1.139	.62749	33.368	26.835	.176	1443.8
130.0	-1.138	.62756	33.368	26.835	.182	1443.9
135.0	-1.143	.62750	33.366	26.834	.188	1443.9
140.0	-1.131	.62802	33.380	26.845	.194	1444.1
145.0	-1.122	.62844	33.392	26.854	.200	1444.2
150.0	-1.119	.62863	33.397	26.858	.206	1444.3
155.0	-1.096	.62951	33.419	26.876	.212	1444.6
160.0	-1.091	.62982	33.429	26.884	.217	1444.7
165.0	-1.089	.62998	33.433	26.886	.223	1444.8
170.0	-1.081	.63034	33.443	26.894	.229	1444.9
175.0	-1.082	.63033	33.440	26.892	.235	1445.0
180.0	-1.041	.63207	33.493	26.933	.240	1445.3
185.0	-1.017	.63312	33.525	26.958	.246	1445.6
190.0	-.991	.63418	33.554	26.981	.251	1445.8
195.0	-.982	.63463	33.568	26.992	.256	1446.0
200.0	-.979	.63476	33.569	26.993	.261	1446.0
210.0	-.956	.63583	33.600	27.017	.272	1446.4
220.0	-.958	.63588	33.598	27.016	.282	1446.5
230.0	-.933	.63695	33.627	27.038	.292	1446.8
240.0	-.886	.63896	33.685	27.083	.302	1447.3
250.0	-.840	.64089	33.739	27.126	.311	1447.8
260.0	-.825	.64159	33.757	27.140	.321	1448.0
270.0	-.820	.64190	33.764	27.145	.330	1448.2
280.0	-.818	.64208	33.766	27.146	.339	1448.4
290.0	-.805	.64269	33.781	27.158	.347	1448.6
300.0	-.794	.64319	33.792	27.166	.356	1448.9
310.0	-.773	.64418	33.819	27.187	.365	1449.2
320.0	-.759	.64481	33.834	27.199	.373	1449.4
330.0	-.752	.64523	33.845	27.208	.382	1449.6
340.0	-.750	.64538	33.845	27.208	.390	1449.8
350.0	-.748	.64556	33.847	27.209	.399	1450.0
360.0	-.747	.64569	33.848	27.210	.407	1450.1
370.0	-.747	.64582	33.849	27.211	.415	1450.3
379.2	-.746	.64595	33.850	27.212	.423	1450.5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EXP 4846 76-40.4 N 97- 9.1 W
DATE 01/04/83 GMT 2100
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-2
+ = SURFACE FREEZING POINT
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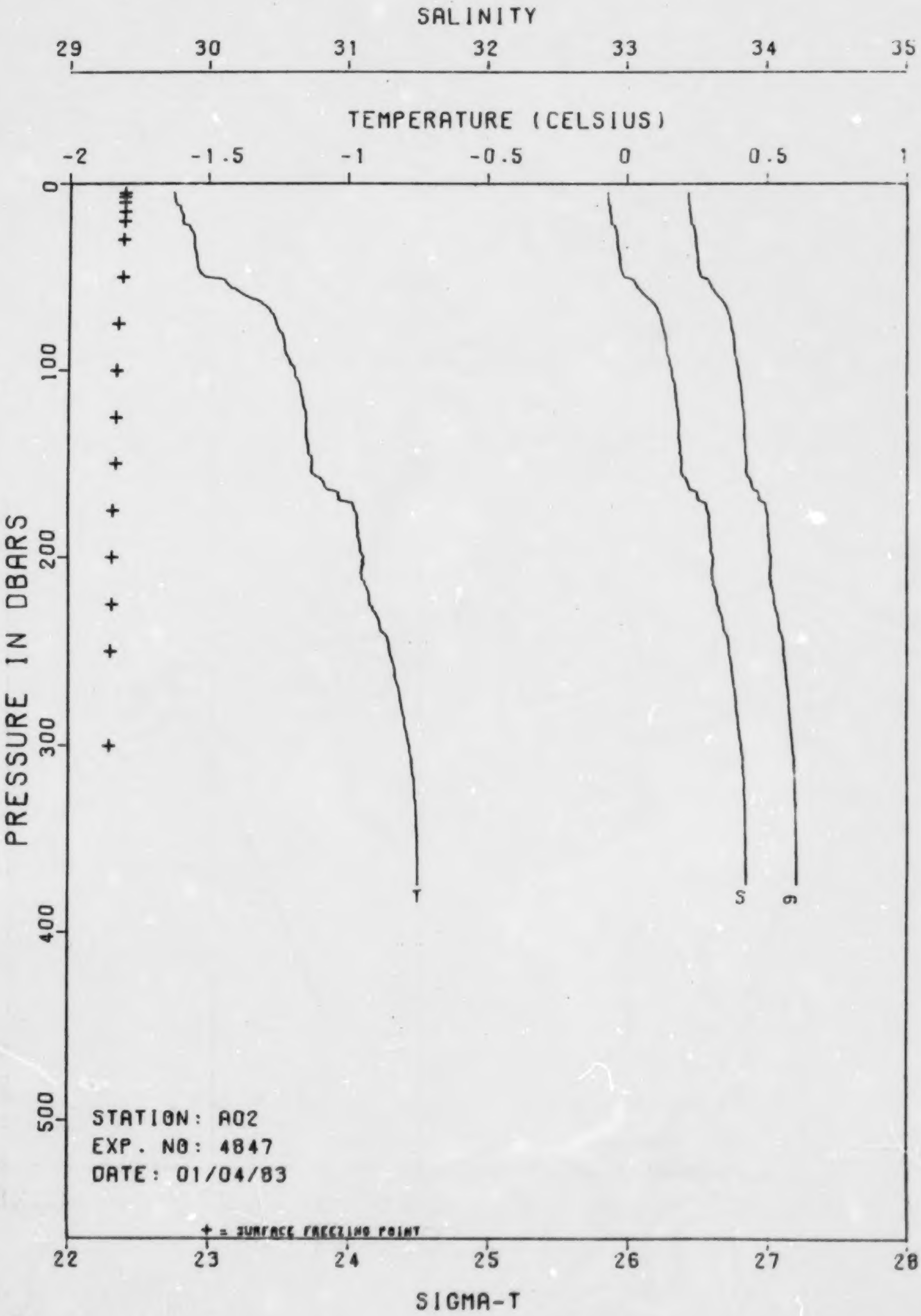
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4847
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A02 EXPERIMENT 4847

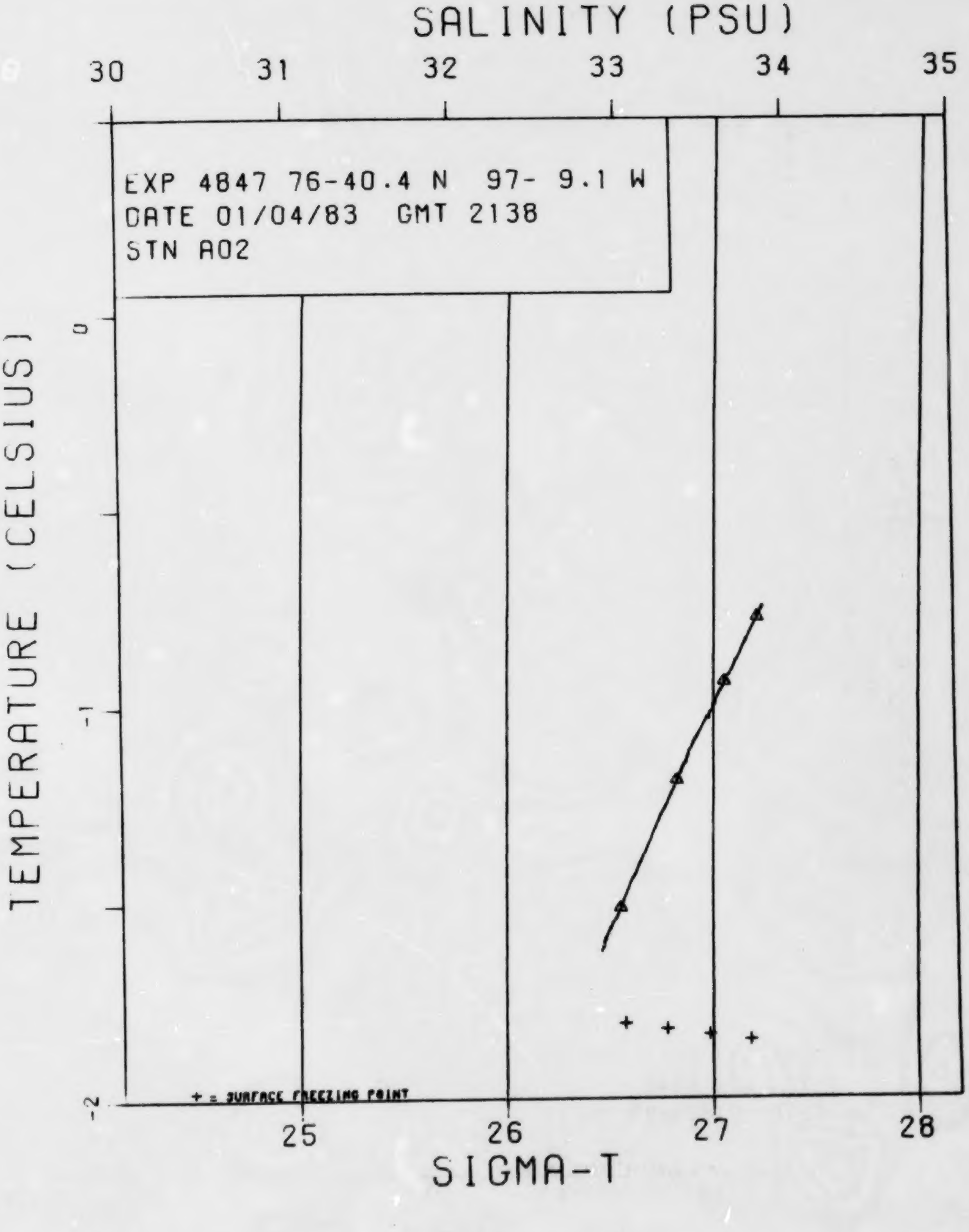
LAT.N. 76-40-24 LON.W. 97- 9- 6 DATE 1/ 4/83 G.M.T. 2138

ICE THICKNESS 1.0 M WATER DEPTH 375 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.8	-1.625	.60848	32.860	26.437	.008	1438.8
5.0	-1.625	.60843	32.857	26.434	.008	1438.8
6.0	-1.618	.60869	32.864	26.440	.010	1438.9
7.0	-1.621	.60863	32.863	26.439	.011	1438.9
8.0	-1.622	.60862	32.863	26.439	.013	1438.9
9.0	-1.618	.60874	32.865	26.441	.014	1438.9
10.0	-1.618	.60879	32.868	26.443	.016	1438.9
11.0	-1.615	.60895	32.873	26.447	.017	1439.0
12.0	-1.601	.60925	32.875	26.448	.019	1439.1
13.0	-1.598	.60935	32.877	26.450	.021	1439.1
14.0	-1.602	.60915	32.868	26.443	.022	1439.1
15.0	-1.600	.60931	32.876	26.449	.024	1439.1
16.0	-1.596	.60950	32.882	26.454	.025	1439.2
17.0	-1.590	.60963	32.883	26.454	.027	1439.2
18.0	-1.591	.60964	32.883	26.455	.028	1439.2
19.0	-1.591	.60965	32.883	26.455	.030	1439.2
20.0	-1.595	.60961	32.884	26.456	.032	1439.2
21.0	-1.594	.60964	32.885	26.456	.033	1439.3
22.0	-1.590	.60973	32.885	26.457	.035	1439.3
23.0	-1.565	.61071	32.915	26.480	.036	1439.5
24.0	-1.564	.61071	32.914	26.479	.038	1439.5
25.0	-1.562	.61084	32.918	26.483	.039	1439.5
27.5	-1.551	.61114	32.922	26.485	.043	1439.6
30.0	-1.551	.61130	32.930	26.492	.047	1439.7
32.5	-1.551	.61132	32.929	26.491	.051	1439.7
35.0	-1.548	.61148	32.935	26.496	.055	1439.8
37.5	-1.543	.61170	32.941	26.501	.058	1439.9
40.0	-1.542	.61185	32.946	26.505	.062	1439.9
42.5	-1.540	.61192	32.947	26.505	.066	1440.0
45.0	-1.537	.61204	32.950	26.508	.070	1440.0
47.5	-1.528	.61240	32.959	26.515	.074	1440.1
50.0	-1.513	.61296	32.974	26.527	.077	1440.2
55.0	-1.425	.61630	33.071	26.603	.084	1440.9
60.0	-1.369	.61836	33.127	26.647	.091	1441.3
65.0	-1.303	.62083	33.196	26.701	.098	1441.8
70.0	-1.266	.62228	33.237	26.733	.105	1442.1
75.0	-1.256	.62271	33.248	26.742	.111	1442.3
80.0	-1.238	.62344	33.268	26.757	.118	1442.4
85.0	-1.227	.62388	33.279	26.766	.124	1442.6
90.0	-1.224	.62408	33.284	26.770	.130	1442.7
95.0	-1.207	.62476	33.302	26.784	.137	1442.9
100.0	-1.189	.62544	33.319	26.797	.143	1443.1
105.0	-1.177	.62589	33.329	26.805	.149	1443.2
110.0	-1.169	.62637	33.344	26.817	.155	1443.4

SITE A02 EXPERIMENT 4647

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.162	.62663	33.349	26.821	.161	1443.5
120.0	-1.158	.62688	33.356	26.826	.167	1443.6
125.0	-1.151	.62728	33.369	26.836	.173	1443.7
130.0	-1.150	.62733	33.368	26.835	.179	1443.8
135.0	-1.150	.62734	33.365	26.833	.185	1443.9
140.0	-1.142	.62776	33.378	26.844	.191	1444.0
145.0	-1.137	.62788	33.376	26.842	.197	1444.1
150.0	-1.128	.62828	33.367	26.851	.203	1444.2
155.0	-1.127	.62833	33.386	26.849	.209	1444.4
160.0	-1.083	.63008	33.436	26.888	.215	1444.7
165.0	-1.037	.63202	33.495	26.935	.220	1445.1
170.0	-1.016	.63294	33.522	26.956	.226	1445.3
175.0	-.974	.63460	33.569	26.993	.231	1445.7
180.0	-.965	.63505	33.562	27.003	.236	1445.8
185.0	-.963	.63527	33.590	27.009	.241	1445.9
190.0	-.960	.63547	33.595	27.013	.247	1446.0
195.0	-.954	.63579	33.604	27.020	.252	1446.1
200.0	-.941	.63634	33.618	27.032	.257	1446.3
210.0	-.948	.63613	33.608	27.023	.267	1446.4
220.0	-.922	.63739	33.646	27.053	.277	1446.8
230.0	-.896	.63846	33.673	27.074	.287	1447.1
240.0	-.872	.63951	33.701	27.096	.296	1447.4
250.0	-.847	.64061	33.732	27.120	.306	1447.7
260.0	-.829	.64131	33.746	27.131	.315	1448.0
270.0	-.814	.64213	33.770	27.150	.324	1448.3
280.0	-.804	.64253	33.777	27.154	.333	1448.5
290.0	-.794	.64314	33.795	27.169	.342	1448.7
300.0	-.775	.64399	33.817	27.186	.350	1449.0
310.0	-.768	.64442	33.828	27.195	.359	1449.2
320.0	-.760	.64485	33.837	27.202	.367	1449.4
330.0	-.754	.64514	33.842	27.205	.376	1449.6
340.0	-.753	.64530	33.843	27.206	.384	1449.8
350.0	-.750	.64549	33.846	27.208	.392	1450.0
360.0	-.746	.64567	33.848	27.210	.401	1450.1
370.0	-.748	.64580	33.849	27.211	.409	1450.3
374.7	-.748	.64587	33.850	27.211	.413	1450.4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DATE 01/04/83 GMT 2138
STN A02
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+ = SURFACE FREEZING POINT
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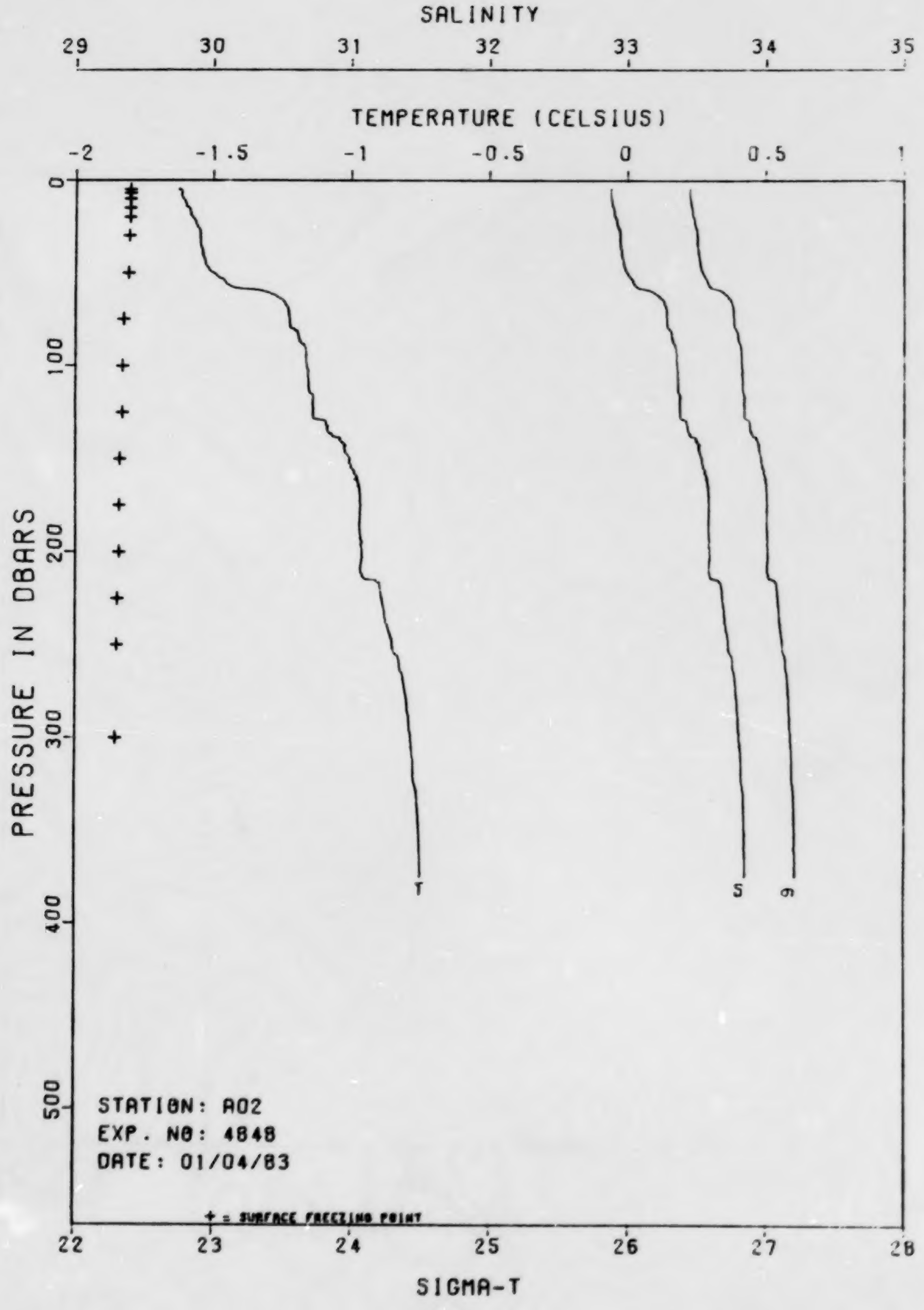
SALINITY
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TEMPERATURE (CELSIUS)
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STATION: A02
EXP. NO: 4848
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A02 EXPERIMENT 4848

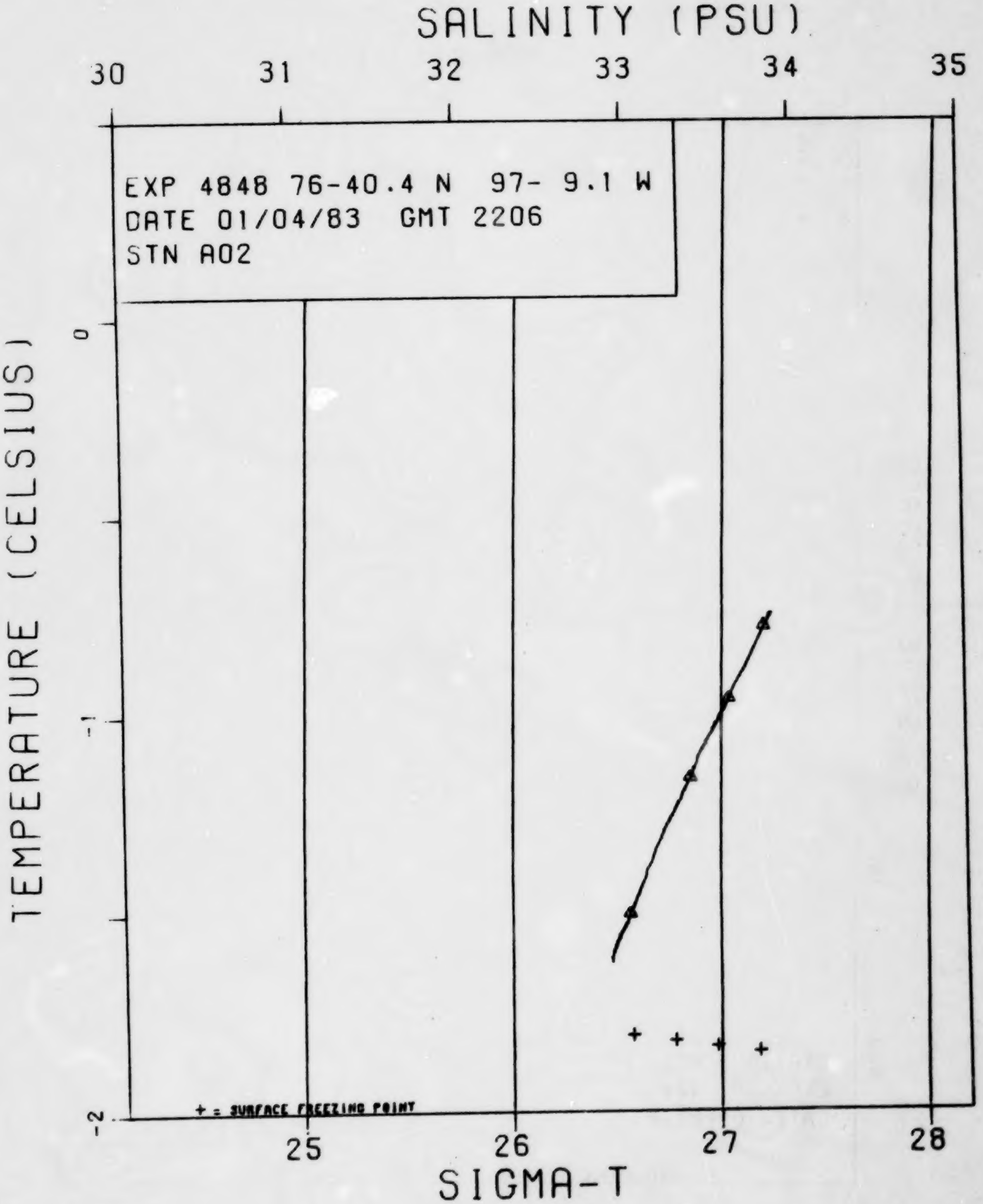
LAT.N. 76-40-24 LON.W. 97- 9- 6 DATE 1/ 4/83 G.M.T. 2206

ICE THICKNESS 1.0 M WATER DEPTH 375 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.624	.60883	32.880	26.453	.007	1438.8
5.0	-1.625	.60877	32.877	26.451	.008	1438.8
6.0	-1.612	.60900	32.876	26.450	.009	1438.9
7.0	-1.614	.60903	32.879	26.452	.011	1438.9
8.0	-1.618	.60896	32.879	26.452	.013	1438.9
9.0	-1.611	.60911	32.880	26.453	.014	1439.0
10.0	-1.611	.60913	32.880	26.453	.016	1439.0
11.0	-1.605	.60935	32.886	26.457	.017	1439.0
12.0	-1.601	.60946	32.887	26.458	.019	1439.1
13.0	-1.598	.60957	32.889	26.460	.020	1439.1
14.0	-1.598	.60954	32.888	26.459	.022	1439.1
15.0	-1.594	.60977	32.896	26.465	.023	1439.2
16.0	-1.583	.61019	32.908	26.475	.025	1439.3
17.0	-1.582	.61009	32.901	26.469	.027	1439.3
18.0	-1.582	.61017	32.905	26.472	.028	1439.3
19.0	-1.583	.61011	32.902	26.470	.030	1439.3
20.0	-1.574	.61045	32.911	26.477	.031	1439.4
21.0	-1.567	.61072	32.919	26.484	.033	1439.4
22.0	-1.567	.61066	32.915	26.481	.034	1439.4
23.0	-1.563	.61086	32.921	26.485	.036	1439.5
24.0	-1.562	.61092	32.924	26.487	.037	1439.5
25.0	-1.557	.61099	32.922	26.485	.039	1439.6
27.5	-1.548	.61161	32.946	26.505	.043	1439.7
30.0	-1.546	.61162	32.944	26.503	.046	1439.7
32.5	-1.546	.61164	32.944	26.503	.050	1439.8
35.0	-1.547	.61170	32.946	26.505	.054	1439.8
37.5	-1.539	.61196	32.952	26.509	.058	1439.9
40.0	-1.538	.61216	32.960	26.516	.062	1439.9
42.5	-1.531	.61239	32.965	26.520	.065	1440.0
45.0	-1.527	.61253	32.967	26.521	.069	1440.1
47.5	-1.516	.61296	32.978	26.530	.073	1440.2
50.0	-1.502	.61348	32.993	26.542	.077	1440.3
55.0	-1.456	.61520	33.040	26.579	.084	1440.7
60.0	-1.317	.62016	33.175	26.684	.091	1441.6
65.0	-1.247	.62290	33.255	26.747	.097	1442.1
70.0	-1.227	.62374	33.280	26.767	.104	1442.4
75.0	-1.223	.62398	33.287	26.772	.110	1442.5
80.0	-1.217	.62432	33.297	26.780	.116	1442.6
85.0	-1.191	.62532	33.323	26.800	.123	1442.8
90.0	-1.169	.62616	33.345	26.818	.129	1443.0
95.0	-1.163	.62644	33.352	26.823	.135	1443.2
100.0	-1.161	.62660	33.356	26.826	.141	1443.3
105.0	-1.158	.62673	33.357	26.827	.147	1443.4
110.0	-1.154	.62689	33.359	26.828	.153	1443.5

SITE A02 EXPERIMENT 4646

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.146	.62725	33.368	26.836	.159	1443.6
120.0	-1.140	.62751	33.373	26.840	.165	1443.7
125.0	-1.139	.62764	33.377	26.842	.171	1443.8
130.0	-1.090	.62946	33.426	26.881	.177	1444.2
135.0	-1.087	.62970	33.433	26.886	.183	1444.3
140.0	-1.043	.63156	33.490	26.931	.188	1444.7
145.0	-1.028	.63227	33.512	26.948	.194	1444.8
150.0	-1.001	.63334	33.541	26.971	.199	1445.1
155.0	-1.002	.63342	33.543	26.973	.204	1445.2
160.0	-.977	.63440	33.570	26.993	.210	1445.4
165.0	-.978	.63434	33.565	26.989	.215	1445.5
170.0	-.967	.63492	33.583	27.004	.220	1445.6
175.0	-.966	.63502	33.585	27.005	.225	1445.7
180.0	-.970	.63497	33.583	27.004	.230	1445.8
185.0	-.971	.63495	33.580	27.002	.236	1445.9
190.0	-.970	.63503	33.581	27.002	.241	1445.9
195.0	-.964	.63533	33.588	27.006	.246	1446.1
200.0	-.961	.63546	33.589	27.008	.251	1446.2
210.0	-.966	.63539	33.585	27.005	.261	1446.3
220.0	-.895	.63843	33.676	27.077	.271	1446.9
230.0	-.883	.63899	33.689	27.087	.281	1447.2
240.0	-.865	.63979	33.710	27.103	.291	1447.4
250.0	-.851	.64043	33.725	27.114	.300	1447.7
260.0	-.824	.64158	33.756	27.139	.309	1448.0
270.0	-.808	.64232	33.775	27.153	.318	1448.3
280.0	-.796	.64293	33.790	27.165	.327	1448.5
290.0	-.789	.64332	33.800	27.173	.336	1448.7
300.0	-.783	.64365	33.806	27.177	.344	1448.9
310.0	-.776	.64406	33.816	27.185	.353	1449.1
320.0	-.774	.64429	33.821	27.189	.362	1449.3
330.0	-.760	.64488	33.834	27.199	.370	1449.6
340.0	-.755	.64517	33.839	27.203	.379	1449.8
350.0	-.753	.64550	33.849	27.211	.387	1450.0
360.0	-.751	.64547	33.839	27.203	.395	1450.1
370.0	-.748	.64568	33.842	27.205	.404	1450.3
375.0	-.748	.64573	33.842	27.205	.408	1450.4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EXP 4848 76-40.4 N 97- 9.1 W
DATE 01/04/83 GMT 2206
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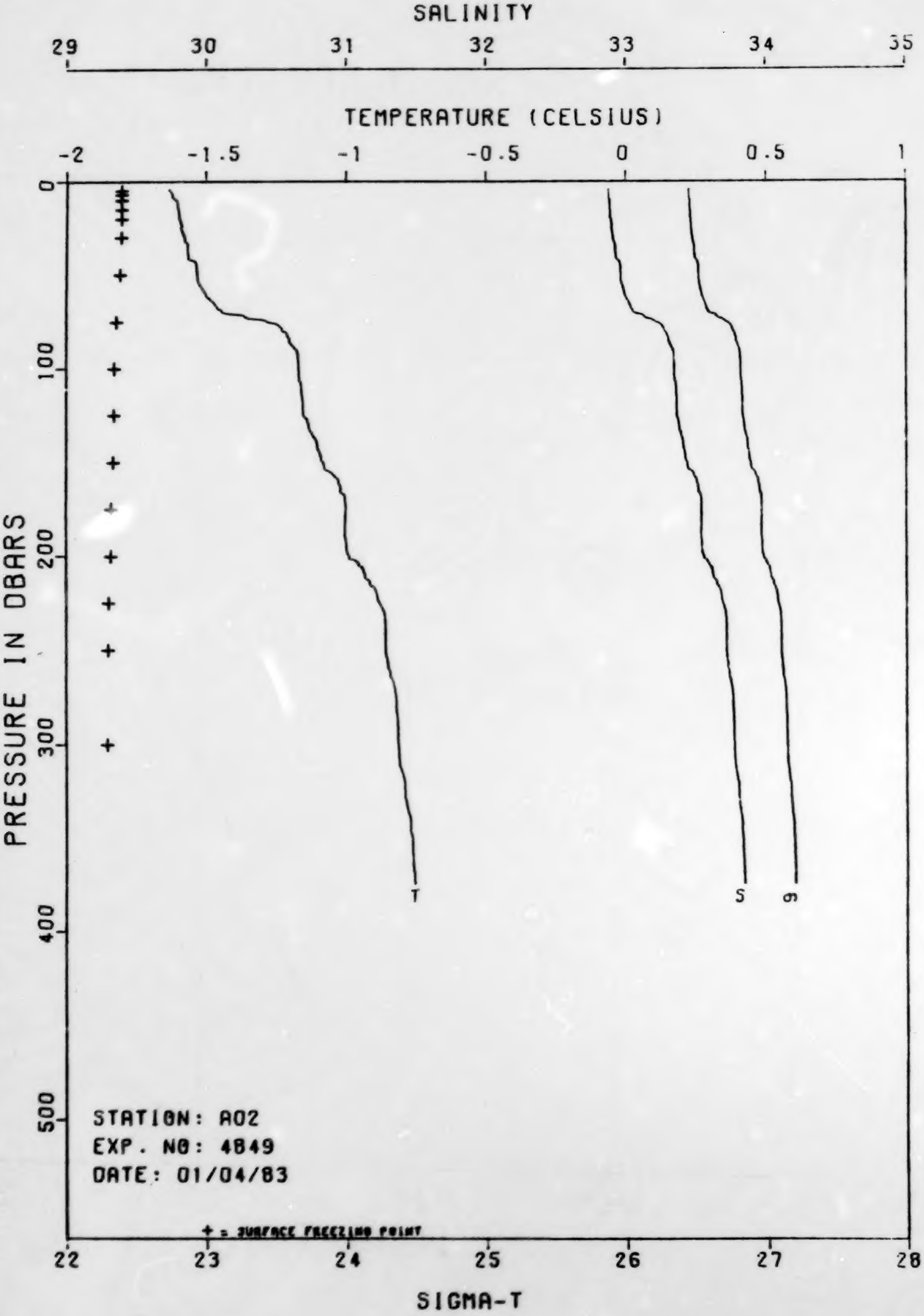
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4849
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE A02   EXPERIMENT 4649

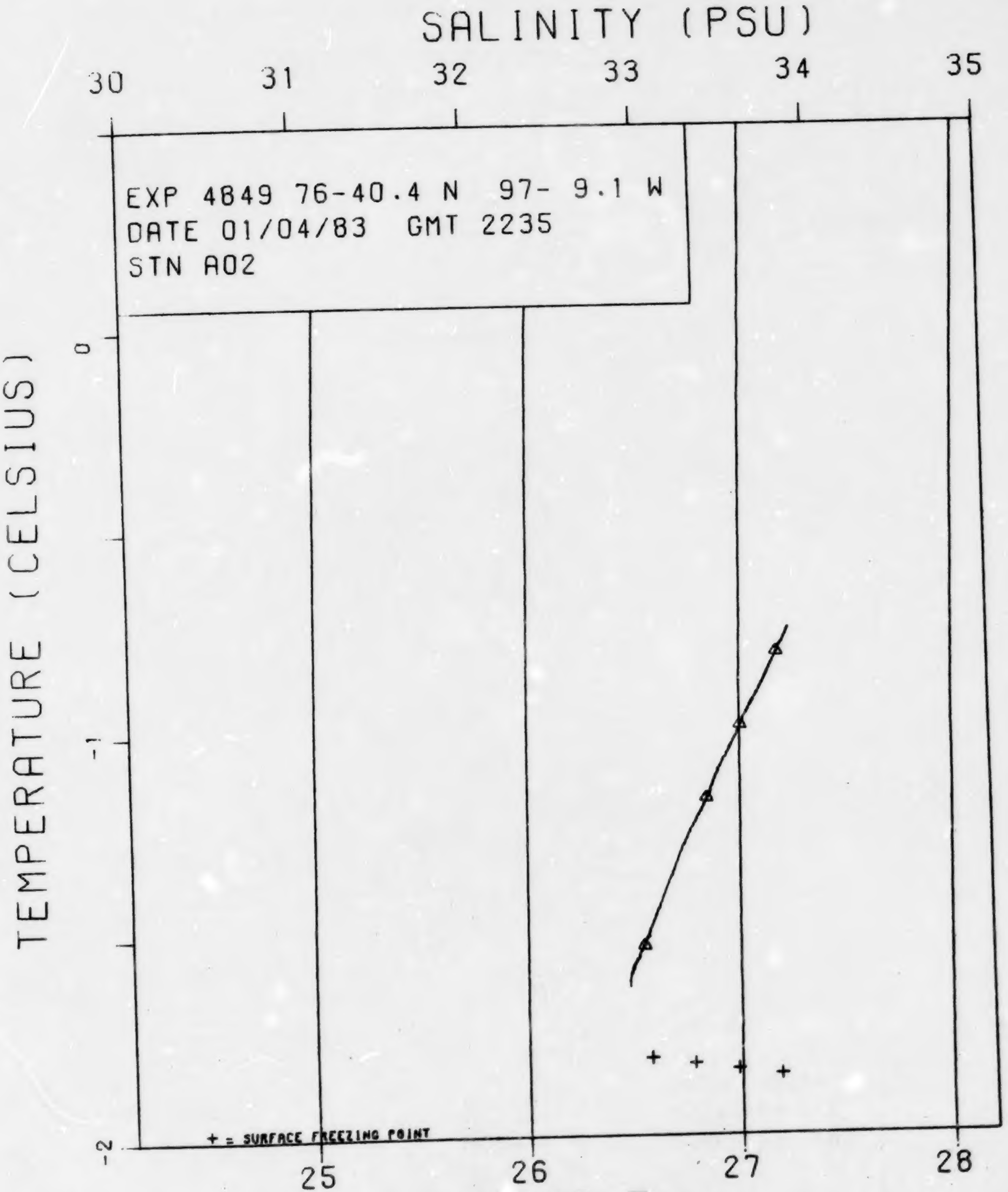
LAT.N. 76-40-24   LON.W. 97- 9- 6   DATE 1/ 4/83   G.M.T. 2235

ICE THICKNESS 1.0 M   WATER DEPTH 375 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.3	-1.632	.60868	32.880	26.453	.007	1438.8
5.0	-1.632	.60864	32.877	26.451	.008	1438.8
6.0	-1.620	.60890	32.878	26.452	.009	1438.9
7.0	-1.620	.60892	32.879	26.452	.011	1438.9
8.0	-1.618	.60902	32.882	26.455	.013	1438.9
9.0	-1.617	.60891	32.874	26.448	.014	1438.9
10.0	-1.602	.60940	32.886	26.457	.016	1439.0
11.0	-1.601	.60947	32.889	26.460	.017	1439.1
12.0	-1.601	.60951	32.890	26.461	.019	1439.1
13.0	-1.599	.60954	32.889	26.460	.020	1439.1
14.0	-1.600	.60954	32.890	26.460	.022	1439.1
15.0	-1.597	.60953	32.885	26.457	.023	1439.2
16.0	-1.597	.60963	32.891	26.461	.025	1439.2
17.0	-1.594	.60974	32.893	26.463	.027	1439.2
18.0	-1.595	.60972	32.892	26.462	.028	1439.2
19.0	-1.595	.60975	32.894	26.464	.030	1439.2
20.0	-1.596	.60974	32.893	26.463	.031	1439.3
21.0	-1.592	.60991	32.898	26.467	.033	1439.3
22.0	-1.590	.60998	32.900	26.469	.034	1439.3
23.0	-1.588	.60993	32.894	26.464	.036	1439.3
24.0	-1.583	.61018	32.903	26.471	.037	1439.4
25.0	-1.588	.61009	32.902	26.471	.039	1439.4
27.5	-1.581	.61026	32.904	26.471	.043	1439.5
30.0	-1.574	.61058	32.913	26.479	.047	1439.5
32.5	-1.573	.61067	32.915	26.481	.051	1439.6
35.0	-1.565	.61110	32.930	26.493	.054	1439.7
37.5	-1.564	.61112	32.929	26.491	.058	1439.7
40.0	-1.562	.61125	32.933	26.495	.062	1439.8
42.5	-1.543	.61197	32.953	26.511	.066	1440.0
45.0	-1.533	.61239	32.965	26.520	.070	1440.1
47.5	-1.532	.61230	32.957	26.514	.073	1440.1
50.0	-1.531	.61249	32.966	26.521	.077	1440.1
55.0	-1.523	.61284	32.975	26.527	.085	1440.3
60.0	-1.503	.61360	32.994	26.543	.092	1440.5
65.0	-1.470	.61475	33.023	26.565	.099	1440.8
70.0	-1.440	.61592	33.055	26.591	.107	1441.0
75.0	-1.281	.62165	33.214	26.715	.113	1442.1
80.0	-1.226	.62381	33.276	26.764	.120	1442.5
85.0	-1.201	.62488	33.308	26.789	.126	1442.8
90.0	-1.177	.62589	33.338	26.812	.132	1443.0
95.0	-1.172	.62620	33.348	26.820	.138	1443.1
100.0	-1.170	.62627	33.347	26.819	.144	1443.2
105.0	-1.167	.62644	33.350	26.821	.150	1443.3
110.0	-1.159	.62684	33.362	26.831	.156	1443.4

SITE A02 EXPERIMENT 4649

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.156	.62700	33.364	26.833	.162	1443.5
120.0	-1.152	.62714	33.365	26.834	.168	1443.6
125.0	-1.156	.62716	33.367	26.835	.174	1443.7
130.0	-1.134	.62790	33.384	26.848	.180	1443.9
135.0	-1.122	.62840	33.396	26.858	.186	1444.1
140.0	-1.103	.62910	33.414	26.871	.192	1444.3
145.0	-1.095	.62949	33.424	26.879	.198	1444.4
150.0	-1.085	.62996	33.437	26.889	.204	1444.6
155.0	-1.058	.63112	33.472	26.917	.209	1444.8
160.0	-1.026	.63248	33.512	26.948	.215	1445.1
165.0	-1.018	.63285	33.522	26.956	.220	1445.2
170.0	-1.003	.63352	33.541	26.971	.226	1445.4
175.0	-.999	.63365	33.542	26.972	.231	1445.5
180.0	-1.001	.63371	33.544	26.973	.236	1445.6
185.0	-1.003	.63368	33.542	26.972	.242	1445.7
190.0	-1.004	.63371	33.541	26.971	.247	1445.7
195.0	-.997	.63395	33.545	26.974	.252	1445.8
200.0	-.987	.63443	33.558	26.984	.258	1446.0
210.0	-.930	.63680	33.627	27.036	.268	1446.5
220.0	-.889	.63868	33.664	27.083	.278	1447.0
230.0	-.861	.63986	33.716	27.107	.287	1447.3
240.0	-.857	.64013	33.720	27.111	.297	1447.5
250.0	-.857	.64023	33.720	27.111	.306	1447.7
260.0	-.845	.64075	33.732	27.120	.315	1447.9
270.0	-.823	.64174	33.758	27.140	.324	1448.2
280.0	-.817	.64211	33.767	27.147	.333	1448.4
290.0	-.812	.64239	33.772	27.151	.342	1448.6
300.0	-.810	.64258	33.774	27.153	.351	1448.8
310.0	-.806	.64284	33.779	27.156	.360	1449.0
320.0	-.785	.64370	33.799	27.172	.369	1449.2
330.0	-.782	.64405	33.810	27.181	.377	1449.4
340.0	-.766	.64478	33.828	27.195	.386	1449.7
350.0	-.761	.64510	33.835	27.200	.395	1449.9
360.0	-.756	.64536	33.838	27.203	.403	1450.1
370.0	-.751	.64565	33.844	27.207	.411	1450.3
374.7	-.750	.64575	33.845	27.208	.415	1450.4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EXP 4849 76-40.4 N 97- 9.1 W
DATE 01/04/83 GMT 2235
STN A02
TEMPERATURE (CELSIUS)
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+ = SURFACE FREEZING POINT
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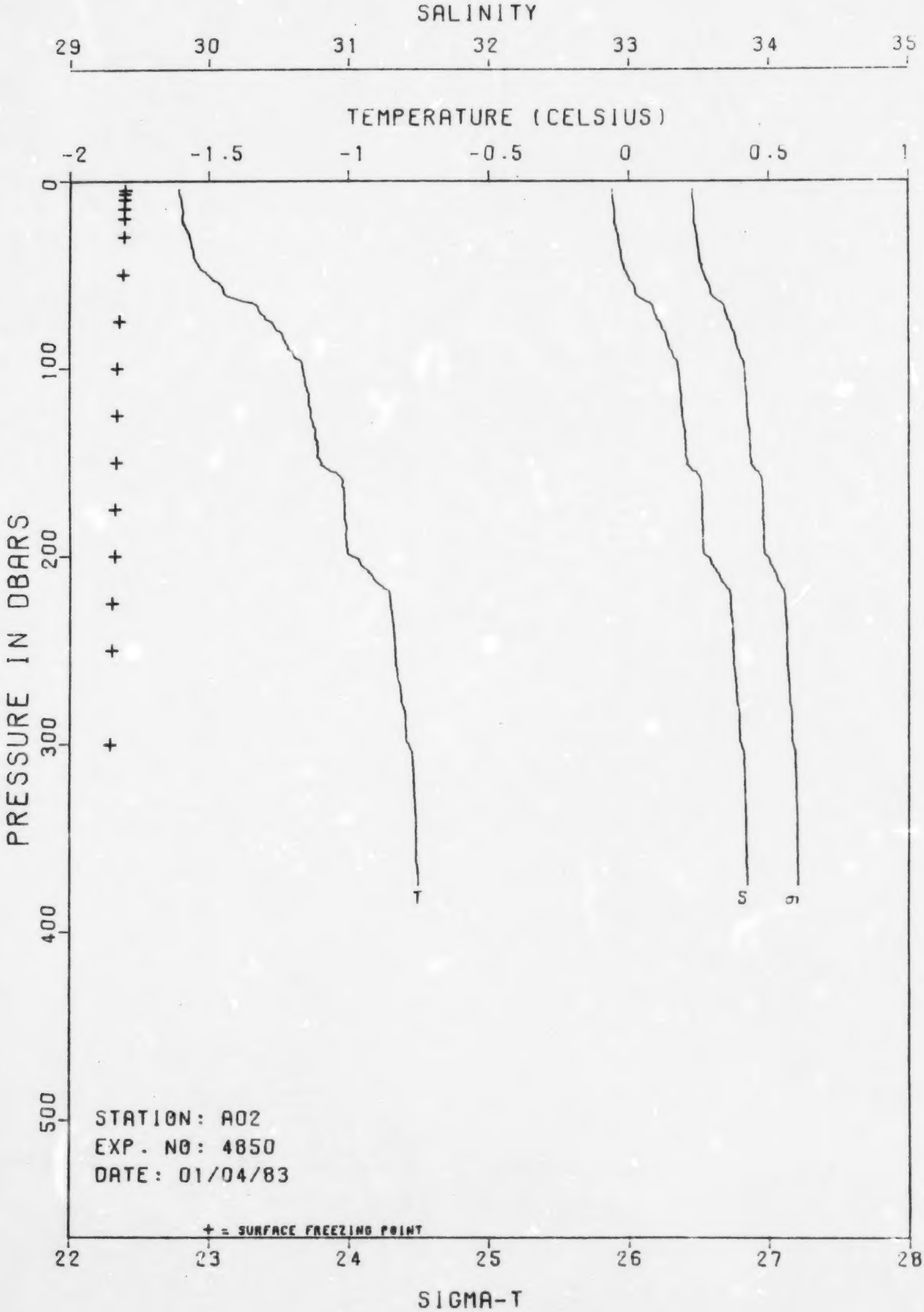
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A02
EXP. NO: 4850
DATE: 01/04/83
+ = SURFACE FREEZING POINT
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SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE A02   EXPERIMENT 4850

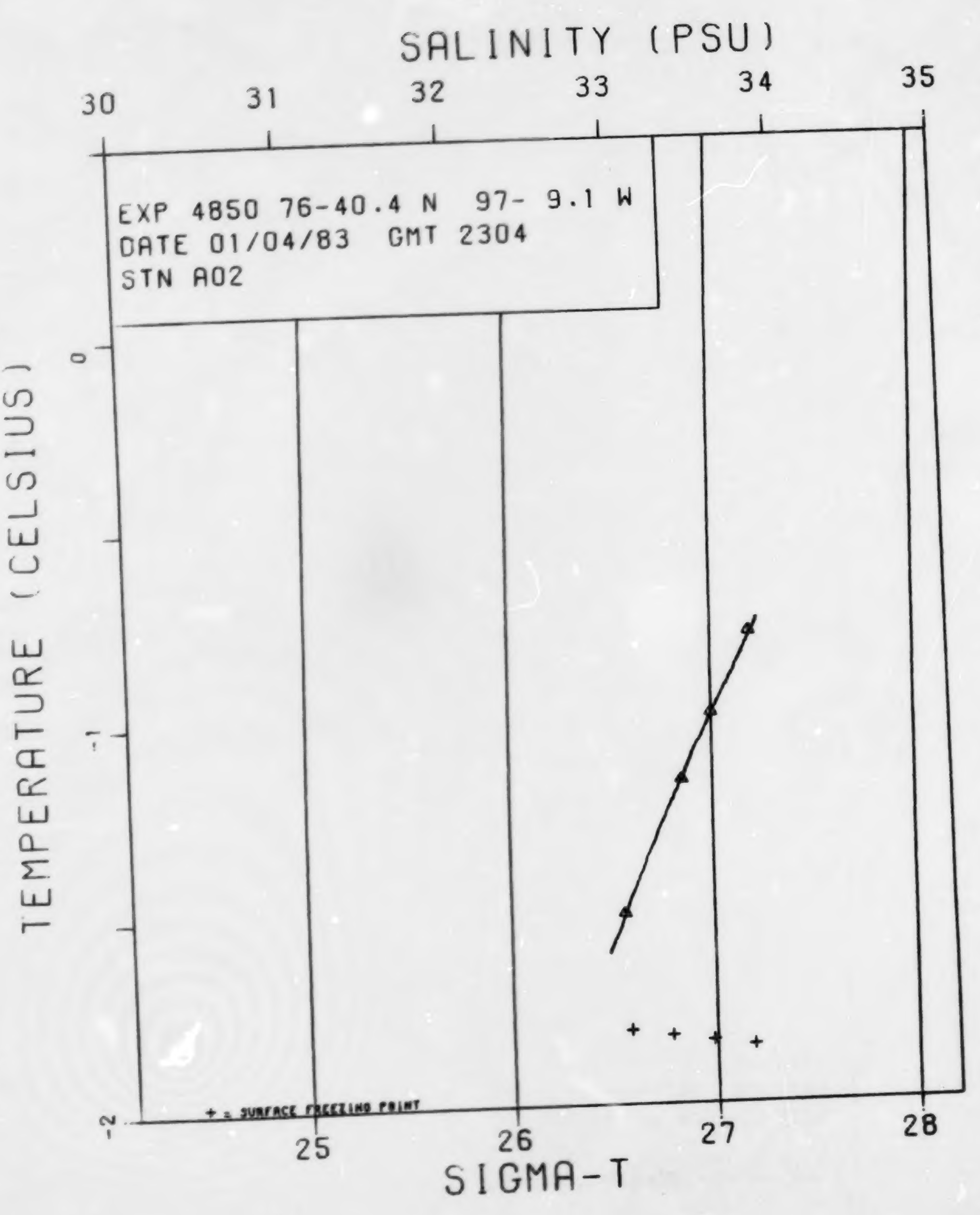
LAT.N. 76-40-24   LON.W. 97- 9- 6   DATE 1/ 4/83   G.M.T. 2304

ICE THICKNESS 1.0 M   WATER DEPTH 375 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.6	-1.609	.60922	32.886	26.458	.007	1438.9
5.0	-1.609	.60915	32.882	26.455	.008	1438.9
6.0	-1.608	.60919	32.882	26.455	.009	1438.9
7.0	-1.605	.60933	32.888	26.459	.011	1439.0
8.0	-1.606	.60925	32.883	26.455	.012	1439.0
9.0	-1.603	.60937	32.886	26.458	.014	1439.0
10.0	-1.598	.60950	32.888	26.459	.016	1439.1
11.0	-1.597	.60953	32.888	26.459	.017	1439.1
12.0	-1.598	.60965	32.895	26.465	.019	1439.1
~~13.0~~	-1.597	.60969	32.896	26.465	.020	1439.1
14.0	-1.595	.60969	32.893	26.463	.022	1439.2
15.0	-1.595	.60970	32.893	26.463	.023	1439.2
16.0	-1.592	.60988	32.900	26.468	.025	1439.2
17.0	-1.592	.60987	32.899	26.467	.026	1439.2
18.0	-1.593	.60998	32.905	26.473	.028	1439.2
19.0	-1.597	.60984	32.902	26.470	.030	1439.2
20.0	-1.595	.60985	32.898	26.467	.031	1439.3
21.0	-1.595	.60991	32.902	26.470	.033	1439.3
22.0	-1.594	.60981	32.895	26.465	.034	1439.3
23.0	-1.592	.60993	32.898	26.467	.036	1439.3
24.0	-1.589	.61015	32.908	26.475	.037	1439.4
25.0	-1.584	.61028	32.909	26.476	.039	1439.4
27.5	-1.572	.61070	32.920	26.484	.043	1439.5
30.0	-1.568	.61092	32.926	26.489	.047	1439.6
32.5	-1.565	.61108	32.931	26.493	.050	1439.7
35.0	-1.562	.61122	32.934	26.495	.054	1439.7
37.5	-1.555	.61152	32.943	26.503	.058	1439.8
40.0	-1.554	.61161	32.945	26.505	.062	1439.8
42.5	-1.548	.61181	32.950	26.508	.066	1439.9
45.0	-1.538	.61232	32.967	26.521	.069	1440.0
47.5	-1.529	.61251	32.966	26.521	.073	1440.1
50.0	-1.507	.61329	32.967	26.537	.077	1440.3
55.0	-1.461	.61505	33.036	26.576	.084	1440.7
60.0	-1.447	.61557	33.049	26.586	.091	1440.8
65.0	-1.346	.61923	33.150	26.665	.098	1441.5
70.0	-1.318	.62034	33.181	26.690	.105	1441.8
75.0	-1.280	.62174	33.219	26.719	.112	1442.1
80.0	-1.255	.62283	33.251	26.744	.118	1442.3
85.0	-1.232	.62372	33.275	26.763	.125	1442.6
90.0	-1.215	.62443	33.294	26.778	.131	1442.8
95.0	-1.187	.62559	33.328	26.805	.137	1443.0
100.0	-1.165	.62653	33.356	26.826	.143	1443.2
105.0	-1.155	.62690	33.363	26.832	.149	1443.4
110.0	-1.152	.62703	33.365	26.833	.155	1443.5

SITE A02   EXPERIMENT 465L

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.142	.62746	33.376	26.842	.161	1443.6
120.0	-1.142	.62749	33.374	26.840	.167	1443.7
125.0	-1.136	.62781	33.383	26.848	.173	1443.8
130.0	-1.128	.62815	33.391	26.854	.179	1444.0
135.0	-1.120	.62848	33.399	26.860	.185	1444.1
140.0	-1.110	.62885	33.406	26.865	.191	1444.2
145.0	-1.111	.62893	33.409	26.868	.197	1444.3
150.0	-1.101	.62933	33.418	26.875	.202	1444.4
155.0	-1.063	.63078	33.457	26.905	.208	1444.8
160.0	-1.020	.63265	33.516	26.952	.214	1445.1
165.0	-1.019	.63277	33.518	26.953	.219	1445.2
170.0	-1.019	.63285	33.520	26.954	.224	1445.3
175.0	-1.017	.63297	33.522	26.956	.230	1445.4
180.0	-1.017	.63299	33.520	26.954	.235	1445.5
185.0	-1.008	.63333	33.527	26.960	.241	1445.6
190.0	-1.013	.63329	33.527	26.960	.246	1445.7
195.0	-1.010	.63336	33.525	26.959	.251	1445.8
200.0	-.990	.63425	33.551	26.979	.257	1446.0
210.0	-.921	.63730	33.646	27.053	.267	1446.6
220.0	-.855	.63999	33.722	27.112	.277	1447.2
230.0	-.847	.64044	33.733	27.121	.286	1447.4
240.0	-.840	.64077	33.739	27.126	.295	1447.6
250.0	-.835	.64097	33.738	27.125	.304	1447.8
260.0	-.828	.64148	33.754	27.137	.313	1448.0
270.0	-.816	.64203	33.767	27.147	.322	1448.2
280.0	-.806	.64254	33.779	27.157	.331	1448.5
290.0	-.797	.64297	33.789	27.164	.340	1448.7
300.0	-.783	.64360	33.803	27.175	.349	1448.9
310.0	-.771	.64425	33.821	27.189	.358	1449.2
320.0	-.767	.64454	33.828	27.195	.366	1449.4
330.0	-.762	.64482	33.832	27.198	.375	1449.6
340.0	-.759	.64504	33.836	27.200	.383	1449.7
350.0	-.760	.64511	33.835	27.200	.391	1449.9
360.0	-.759	.64526	33.837	27.201	.400	1450.1
370.0	-.751	.64554	33.838	27.202	.408	1450.3
375.4	-.751	.64572	33.845	27.207	.413	1450.4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EXP 4850 76-40.4 N 97- 9.1 W
DATE 01/04/83 GMT 2304
STN A02
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+ = SURFACE FREEZING POINT
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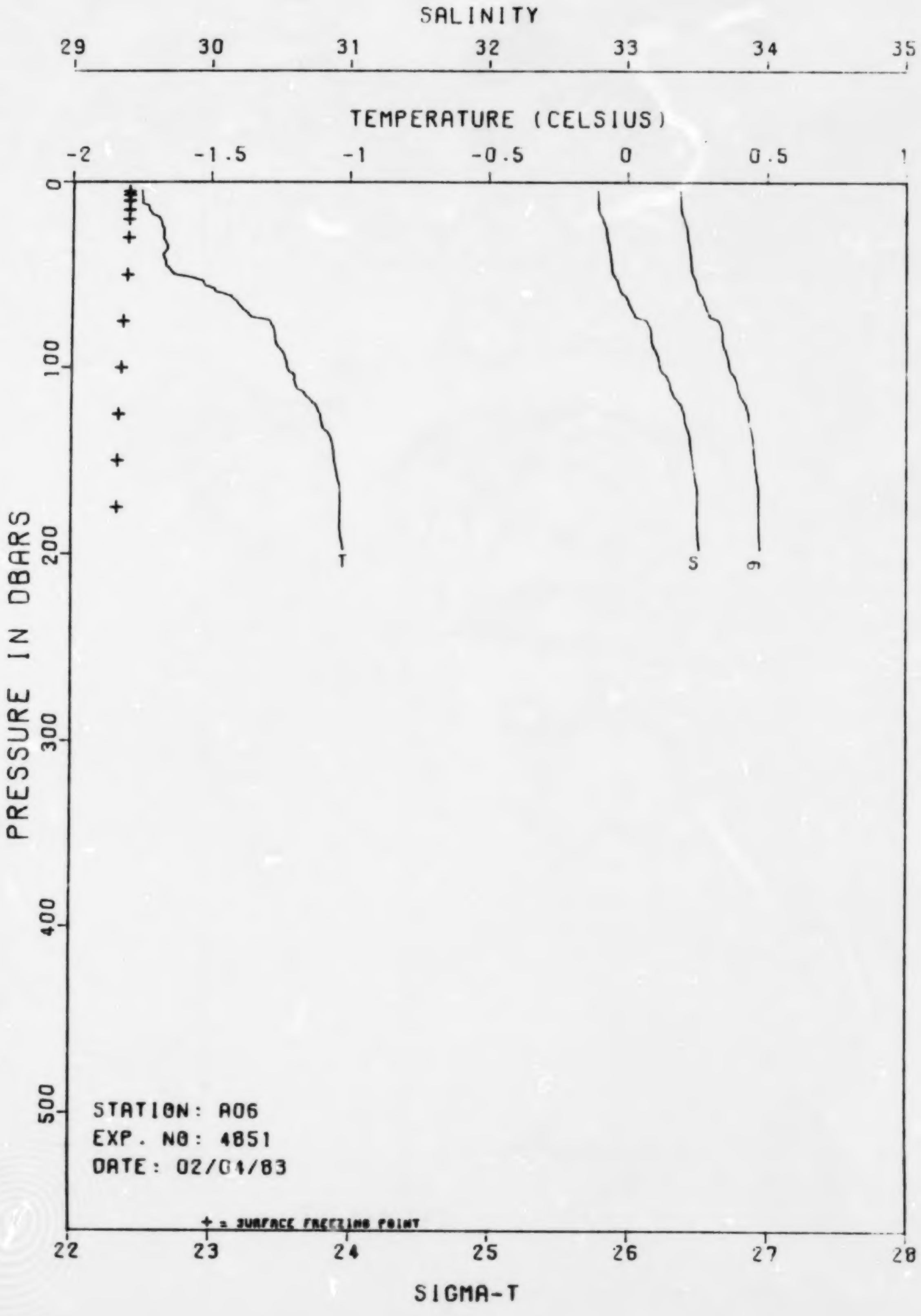
SIGMA-T


SALINITY
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TEMPERATURE (CELSIUS)
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PRESSURE IN DBARS
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STATION: A06
EXP. NO: 4851
DATE: 02/04/83
+ = SURFACE FREEZING POINT
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CRUISE 015-83-022 ARCTIC ISLANDS-83 SITE A06 EXPERIMENT 4851

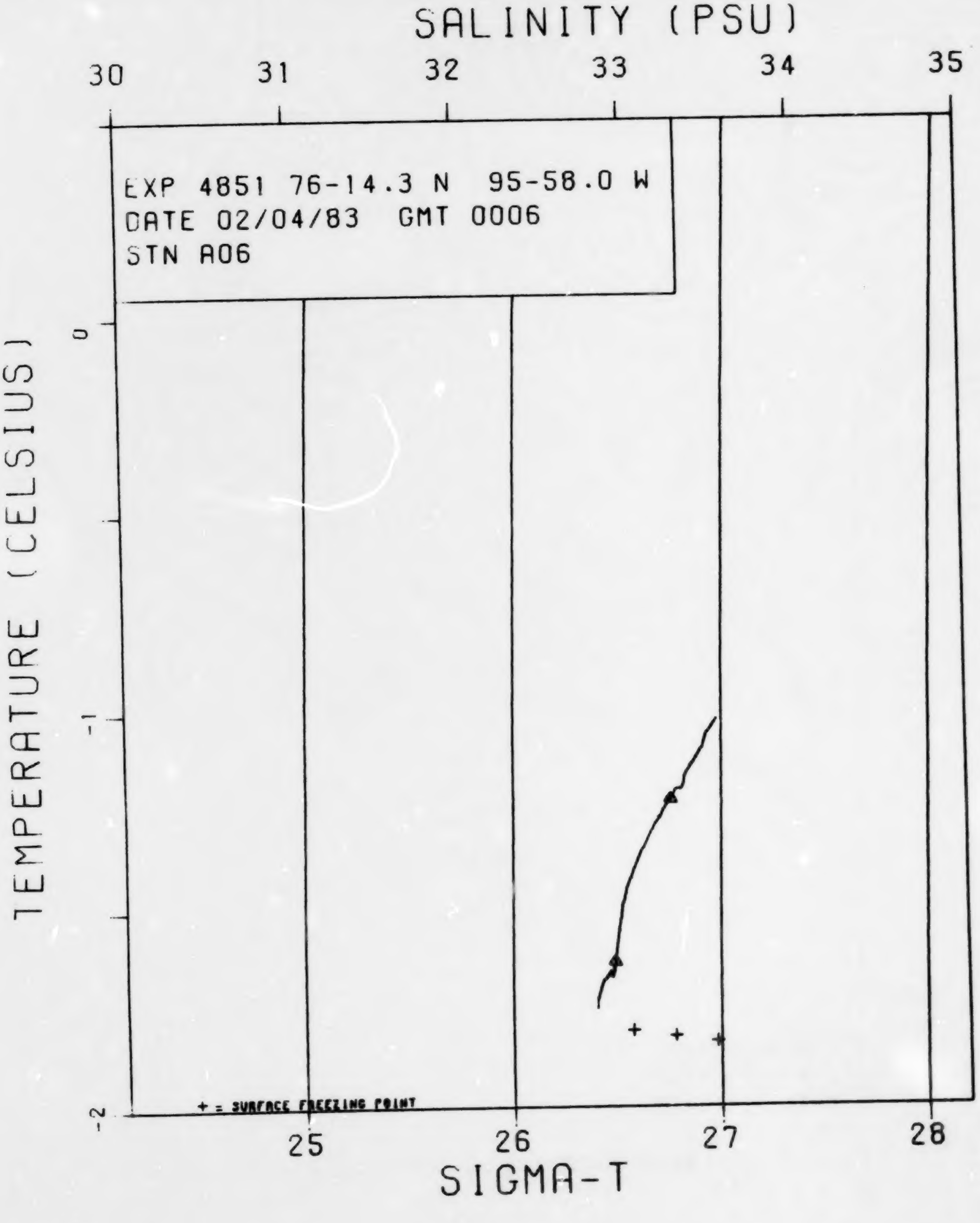
LAT.N. 76-14-17 LON.W. 95-58- 0 DATE 2/ 4/83 G.M.T. 6

ICE THICKNESS 1.5 M WATER DEPTH 198 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.5	-1.753	.60482	32.784	26.378	.007	1438.1
5.0	-1.751	.60488	32.786	26.380	.008	1438.1
6.0	-1.750	.60490	32.786	26.379	.010	1438.1
7.0	-1.750	.60487	32.783	26.377	.011	1438.1
8.0	-1.750	.60493	32.786	26.379	.013	1438.2
9.0	-1.748	.60501	32.787	26.381	.015	1438.2
10.0	-1.749	.60500	32.767	26.380	.016	1438.2
11.0	-1.748	.60508	32.791	26.384	.018	1438.2
12.0	-1.751	.60500	32.788	26.382	.020	1438.2
13.0	-1.728	.60547	32.790	26.383	.021	1438.4
14.0	-1.725	.60556	32.792	26.384	.023	1438.4
15.0	-1.725	.60561	32.794	26.385	.025	1438.4
16.0	-1.720	.60578	32.797	26.388	.026	1438.5
17.0	-1.714	.60591	32.798	26.389	.028	1438.5
18.0	-1.712	.60602	32.802	26.392	.029	1438.5
19.0	-1.688	.60672	32.817	26.404	.031	1438.7
20.0	-1.684	.60688	32.821	26.407	.033	1438.7
21.0	-1.680	.60705	32.827	26.411	.034	1438.8
22.0	-1.678	.60715	32.830	26.414	.036	1438.8
23.0	-1.679	.60725	32.836	26.418	.037	1438.8
24.0	-1.679	.60731	32.838	26.421	.039	1438.8
25.0	-1.673	.60754	32.845	26.426	.041	1438.9
27.5	-1.671	.60768	32.849	26.429	.045	1439.0
30.0	-1.673	.60774	32.854	26.433	.049	1439.0
32.5	-1.665	.60807	32.862	26.440	.053	1439.1
35.0	-1.657	.60832	32.868	26.444	.056	1439.2
37.5	-1.665	.60827	32.872	26.448	.060	1439.2
40.0	-1.675	.60822	32.878	26.453	.064	1439.2
42.5	-1.665	.60849	32.882	26.456	.068	1439.3
45.0	-1.665	.60860	32.886	26.459	.072	1439.3
47.5	-1.646	.60905	32.891	26.462	.076	1439.5
50.0	-1.626	.60959	32.899	26.469	.080	1439.6
55.0	-1.523	.61216	32.935	26.495	.088	1440.2
60.0	-1.453	.61409	32.968	26.520	.095	1440.7
65.0	-1.404	.61581	33.012	26.554	.103	1441.1
70.0	-1.370	.61707	33.045	26.581	.110	1441.4
75.0	-1.284	.62032	33.139	26.654	.117	1442.0
80.0	-1.270	.62116	33.170	26.679	.124	1442.2
85.0	-1.269	.62132	33.175	26.683	.130	1442.3
90.0	-1.248	.62217	33.199	26.701	.137	1442.5
95.0	-1.233	.62291	33.223	26.720	.144	1442.6
100.0	-1.225	.62338	33.238	26.733	.150	1442.8
105.0	-1.199	.62482	33.290	26.774	.157	1443.1
110.0	-1.192	.62535	33.310	26.790	.163	1443.2

SITE A06 EXPERIMENT 4051

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.158	.62645	33.334	26.808	.169	1443.5
120.0	-1.119	.62819	33.390	26.852	.175	1443.8
125.0	-1.106	.62886	33.411	26.869	.181	1444.0
130.0	-1.099	.62916	33.419	26.875	.187	1444.1
135.0	-1.074	.63015	33.445	26.896	.192	1444.4
140.0	-1.063	.63059	33.456	26.904	.198	1444.5
145.0	-1.056	.63082	33.459	26.906	.204	1444.6
150.0	-1.054	.63110	33.469	26.914	.209	1444.7
155.0	-1.048	.63144	33.480	26.923	.215	1444.9
160.0	-1.041	.63183	33.491	26.932	.220	1445.0
165.0	-1.033	.63224	33.503	26.941	.226	1445.1
170.0	-1.033	.63231	33.504	26.942	.231	1445.2
175.0	-1.033	.63236	33.504	26.942	.237	1445.3
180.0	-1.032	.63244	33.505	26.943	.242	1445.4
185.0	-1.034	.63244	33.504	26.942	.248	1445.5
190.0	-1.032	.63260	33.507	26.945	.253	1445.6
195.0	-1.024	.63295	33.516	26.951	.259	1445.7
197.5	-1.021	.63307	33.519	26.954	.261	1445.7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34
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EXP 4851 76-14.3 N 95-58.0 W
DATE 02/04/83 GMT 0006
STN A06
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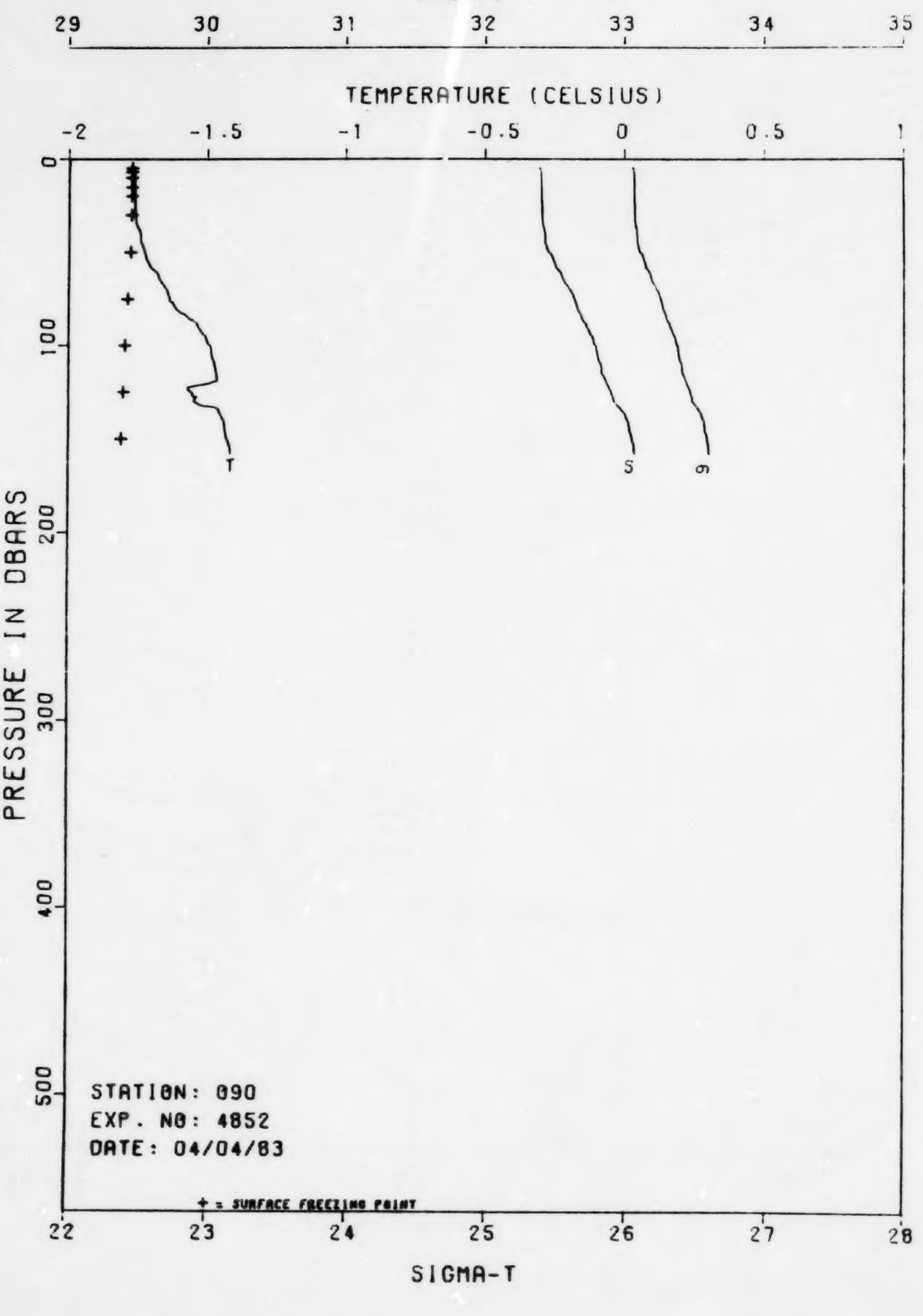
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
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30
31
32
33
34
35
TEMPERATURE (CELSIUS)
-2
-1.5
-1
-0.5
0
0.5
1
PRESSURE IN DBARS
0
100
200
300
400
500
T
S
σ
STATION: 090
EXP. NO: 4852
DATE: 04/04/83
+ = SURFACE FREEZING POINT
22
23
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SIGMA-T

CRUISE C15-83-022   ARCTIC ISLANDS-83   SITE 090   EXPERIMENT 4852

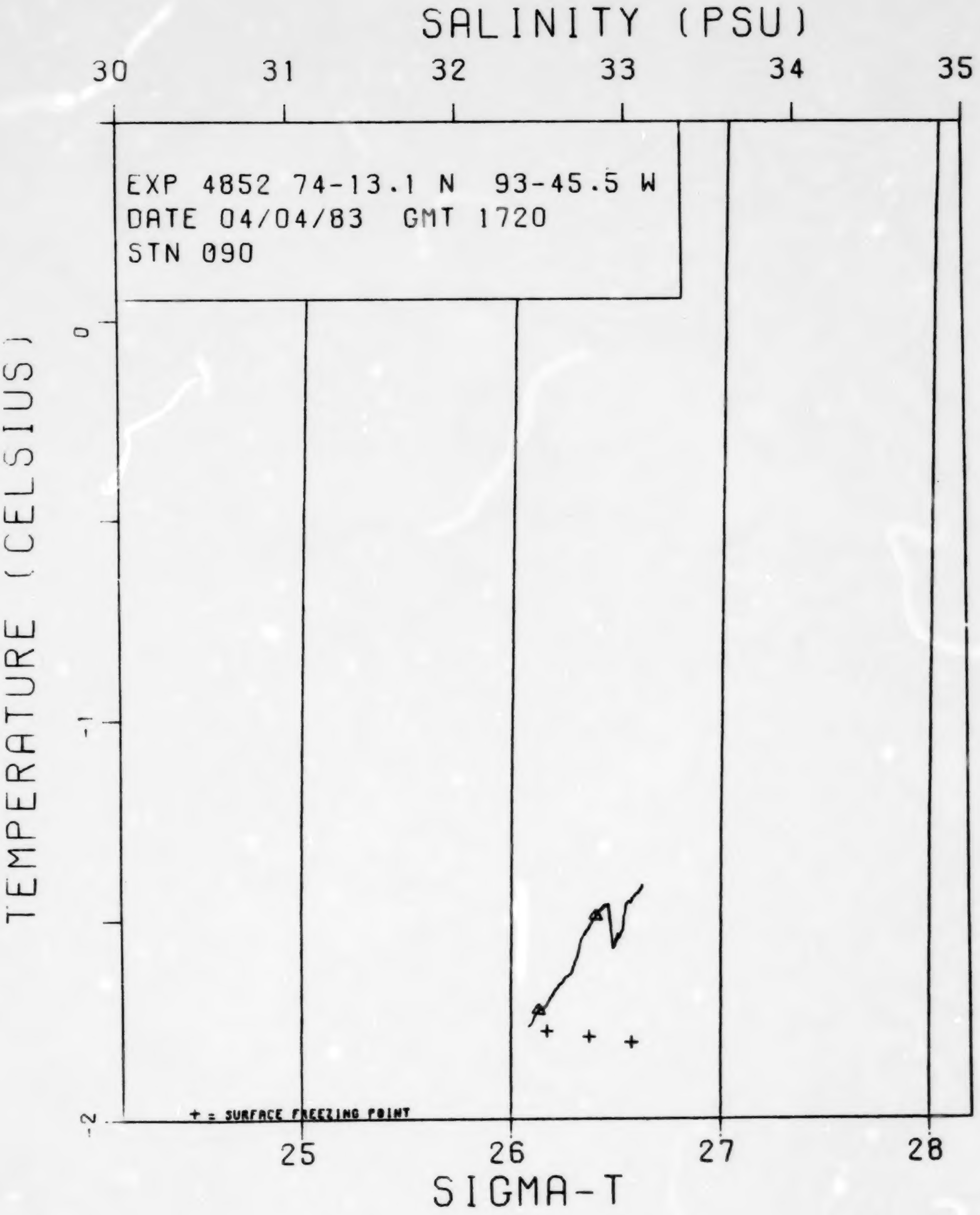
LAT.N. 74-13- 6   LON.W. 93-45-30   DATE 4/ 4/83   G.M.T. 1720

ICE THICKNESS 1.5 M   WATER DEPTH 159 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
4.7	-1.767	.59794	32.390	26.058	.009	1437.5
5.0	-1.767	.59803	32.395	26.062	.010	1437.5
6.0	-1.766	.59808	32.396	26.063	.012	1437.5
7.0	-1.765	.59819	32.402	26.068	.014	1437.5
8.0	-1.765	.59821	32.401	26.067	.016	1437.6
9.0	-1.765	.59823	32.402	26.068	.017	1437.6
10.0	-1.765	.59825	32.403	26.068	.019	1437.6
11.0	-1.764	.59826	32.402	26.068	.021	1437.6
12.0	-1.764	.59827	32.402	26.068	.023	1437.6
13.0	-1.765	.59828	32.403	26.069	.025	1437.6
14.0	-1.764	.59830	32.402	26.068	.027	1437.7
15.0	-1.765	.59831	32.403	26.069	.029	1437.7
16.0	-1.763	.59833	32.402	26.068	.031	1437.7
17.0	-1.764	.59833	32.402	26.068	.033	1437.7
18.0	-1.764	.59834	32.402	26.068	.035	1437.7
19.0	-1.764	.59836	32.403	26.069	.037	1437.7
20.0	-1.764	.59837	32.402	26.068	.039	1437.8
21.0	-1.764	.59836	32.403	26.068	.041	1437.8
22.0	-1.764	.59838	32.402	26.068	.043	1437.8
23.0	-1.763	.59841	32.403	26.068	.045	1437.8
24.0	-1.762	.59849	32.405	26.071	.046	1437.8
25.0	-1.763	.59851	32.407	26.072	.048	1437.9
27.5	-1.761	.59856	32.406	26.071	.053	1437.9
30.0	-1.761	.59860	32.407	26.072	.058	1437.9
32.5	-1.760	.59866	32.408	26.073	.063	1438.0
35.0	-1.759	.59880	32.413	26.077	.068	1438.0
37.5	-1.750	.59911	32.421	26.083	.072	1438.1
40.0	-1.742	.59938	32.426	26.087	.077	1438.2
42.5	-1.742	.59944	32.428	26.089	.082	1438.3
45.0	-1.741	.59947	32.428	26.088	.087	1438.3
47.5	-1.732	.59988	32.441	26.099	.092	1438.4
50.0	-1.724	.60030	32.456	26.111	.096	1438.5
55.0	-1.717	.60112	32.494	26.142	.106	1438.7
60.0	-1.691	.60228	32.530	26.171	.115	1438.9
65.0	-1.672	.60318	32.560	26.195	.124	1439.2
70.0	-1.648	.60443	32.605	26.230	.133	1439.4
75.0	-1.636	.60532	32.642	26.260	.142	1439.6
80.0	-1.613	.60615	32.663	26.276	.150	1439.8
85.0	-1.568	.60757	32.694	26.301	.159	1440.2
90.0	-1.531	.60888	32.728	26.327	.167	1440.5
95.0	-1.507	.61007	32.768	26.359	.176	1440.7
100.0	-1.490	.61084	32.793	26.379	.184	1440.9
105.0	-1.484	.61120	32.804	26.388	.192	1441.0
110.0	-1.473	.61192	32.831	26.410	.200	1441.2

SITE 090 EXPERIMENT 4652

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
115.0	-1.467	.61216	32.837	26.414	.206	1441.3
120.0	-1.486	.61248	32.873	26.444	.216	1441.4
125.0	-1.558	.61175	32.906	26.473	.224	1441.2
130.0	-1.547	.61230	32.923	26.486	.231	1441.3
135.0	-1.454	.61512	32.984	26.533	.239	1441.9
140.0	-1.441	.61605	33.021	26.563	.246	1442.1
145.0	-1.436	.61635	33.031	26.571	.253	1442.2
150.0	-1.429	.61686	33.050	26.586	.261	1442.4
155.0	-1.415	.61742	33.064	26.597	.268	1442.6
158.2	-1.415	.61751	33.067	26.599	.272	1442.6


SALINITY (PSU)
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31
32
33
34
35
EXP 4852 74-13.1 N 93-45.5 W
DATE 04/04/83 GMT 1720
STN 090
TEMPERATURE (CELSIUS)
0
-1
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE 090   EXPERIMENT 4901

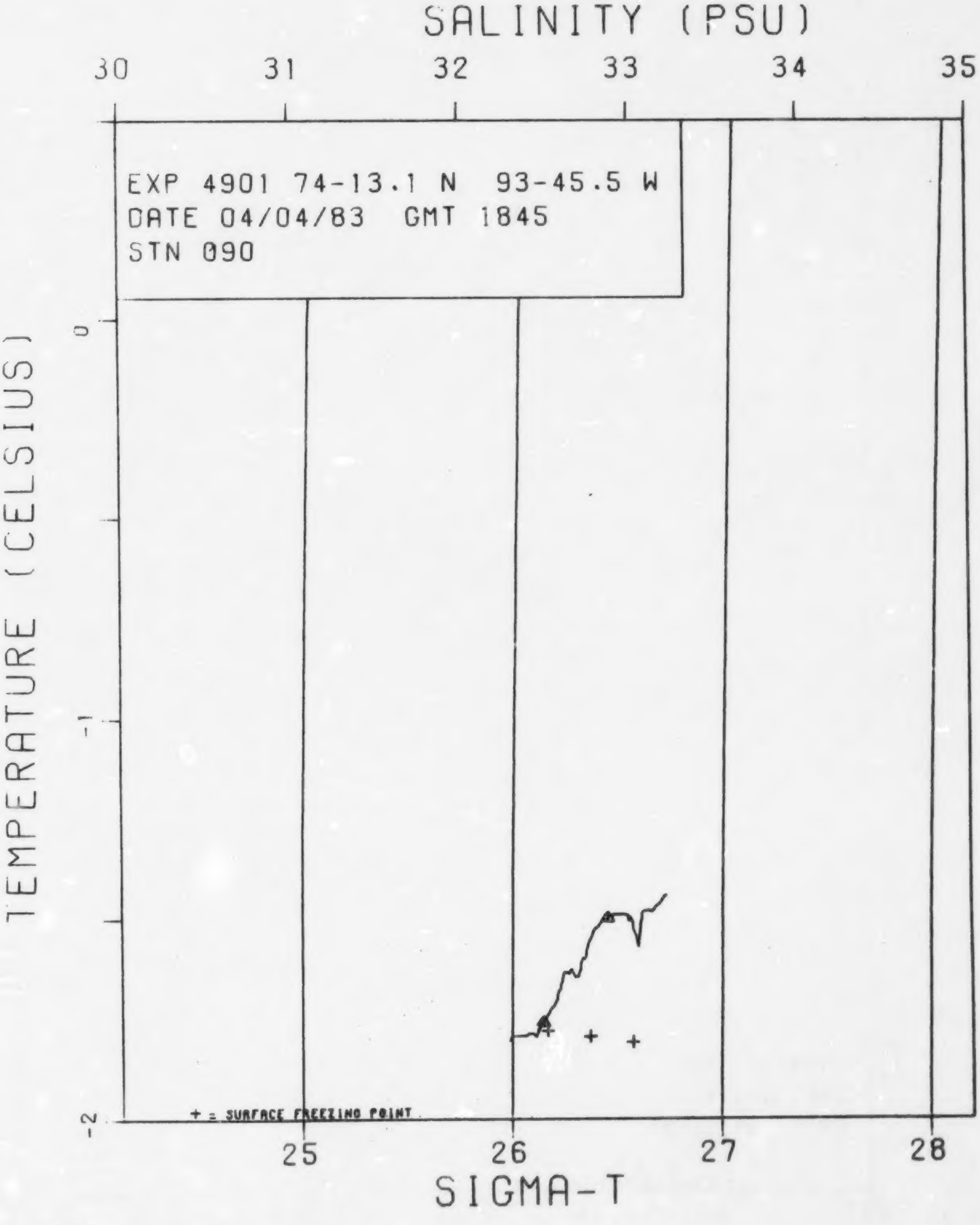
LAT.N. 74-13- 6   LON.W. 93-45-30   DATE 4/ 4/83   G.M.T. 1845

ICE THICKNESS 1.5 M   WATER DEPTH 0 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
3.4	-1.804	.59524	32.270	25.962	.007	1437.1
4.0	-1.802	.59531	32.272	25.963	.008	1437.1
5.0	-1.801	.59540	32.276	25.966	.010	1437.2
6.0	-1.801	.59540	32.275	25.966	.012	1437.2
7.0	-1.799	.59547	32.276	25.967	.014	1437.2
8.0	-1.798	.59557	32.280	25.970	.016	1437.2
9.0	-1.796	.59564	32.282	25.971	.018	1437.3
10.0	-1.795	.59565	32.281	25.970	.020	1437.3
11.0	-1.793	.59575	32.285	25.973	.022	1437.3
12.0	-1.793	.59574	32.283	25.972	.024	1437.3
13.0	-1.793	.59578	32.285	25.973	.026	1437.3
14.0	-1.793	.59584	32.288	25.975	.028	1437.4
15.0	-1.793	.59587	32.289	25.976	.030	1437.4
16.0	-1.792	.59653	32.327	26.007	.032	1437.5
17.0	-1.792	.59688	32.347	26.024	.034	1437.5
18.0	-1.793	.59704	32.356	26.031	.036	1437.5
19.0	-1.792	.59722	32.365	26.039	.038	1437.6
20.0	-1.792	.59729	32.369	26.041	.040	1437.6
21.0	-1.792	.59731	32.369	26.042	.042	1437.6
22.0	-1.791	.59735	32.371	26.043	.044	1437.6
23.0	-1.792	.59736	32.371	26.043	.046	1437.6
24.0	-1.791	.59743	32.374	26.045	.048	1437.7
25.0	-1.790	.59745	32.374	26.046	.050	1437.7
27.5	-1.789	.59760	32.379	26.050	.055	1437.7
30.0	-1.788	.59765	32.380	26.051	.060	1437.8
32.5	-1.785	.59783	32.386	26.056	.065	1437.8
35.0	-1.786	.59787	32.388	26.057	.070	1437.9
37.5	-1.786	.59832	32.413	26.077	.074	1438.0
40.0	-1.794	.59848	32.430	26.092	.079	1438.0
42.5	-1.781	.59887	32.438	26.097	.084	1438.1
45.0	-1.764	.59943	32.450	26.107	.089	1438.2
47.5	-1.759	.59983	32.467	26.120	.093	1438.3
50.0	-1.756	.59998	32.472	26.124	.098	1438.4
55.0	-1.718	.60169	32.529	26.170	.107	1438.7
60.0	-1.694	.60260	32.553	26.189	.116	1439.0
65.0	-1.633	.60445	32.593	26.221	.125	1439.4
70.0	-1.634	.60490	32.618	26.240	.134	1439.5
75.0	-1.638	.60538	32.647	26.264	.143	1439.6
80.0	-1.627	.60633	32.688	26.298	.152	1439.8
85.0	-1.554	.60863	32.741	26.339	.160	1440.3
90.0	-1.524	.60983	32.776	26.366	.168	1440.6
95.0	-1.509	.61077	32.812	26.395	.176	1440.8
100.0	-1.499	.61171	32.853	26.428	.184	1441.0
105.0	-1.489	.61279	32.904	26.469	.192	1441.2

SITE 090 EXPERIMENT 4901

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
110.0	-1.491	.61386	32.966	26.519	.200	1441.3
115.0	-1.512	.61407	32.998	26.546	.207	1441.4
120.0	-1.569	.61360	33.031	26.574	.214	1441.2
125.0	-1.515	.61488	33.044	26.584	.222	1441.6
130.0	-1.479	.61633	33.086	26.617	.229	1441.9
135.0	-1.480	.61690	33.118	26.642	.236	1442.0
140.0	-1.475	.61720	33.128	26.650	.243	1442.1
145.0	-1.463	.61792	33.153	26.671	.249	1442.3
150.0	-1.453	.61848	33.172	26.686	.256	1442.4
155.0	-1.441	.61909	33.192	26.702	.263	1442.6
159.8	-1.441	.61924	33.197	26.706	.269	1442.7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DATE 04/04/83 GMT 1845
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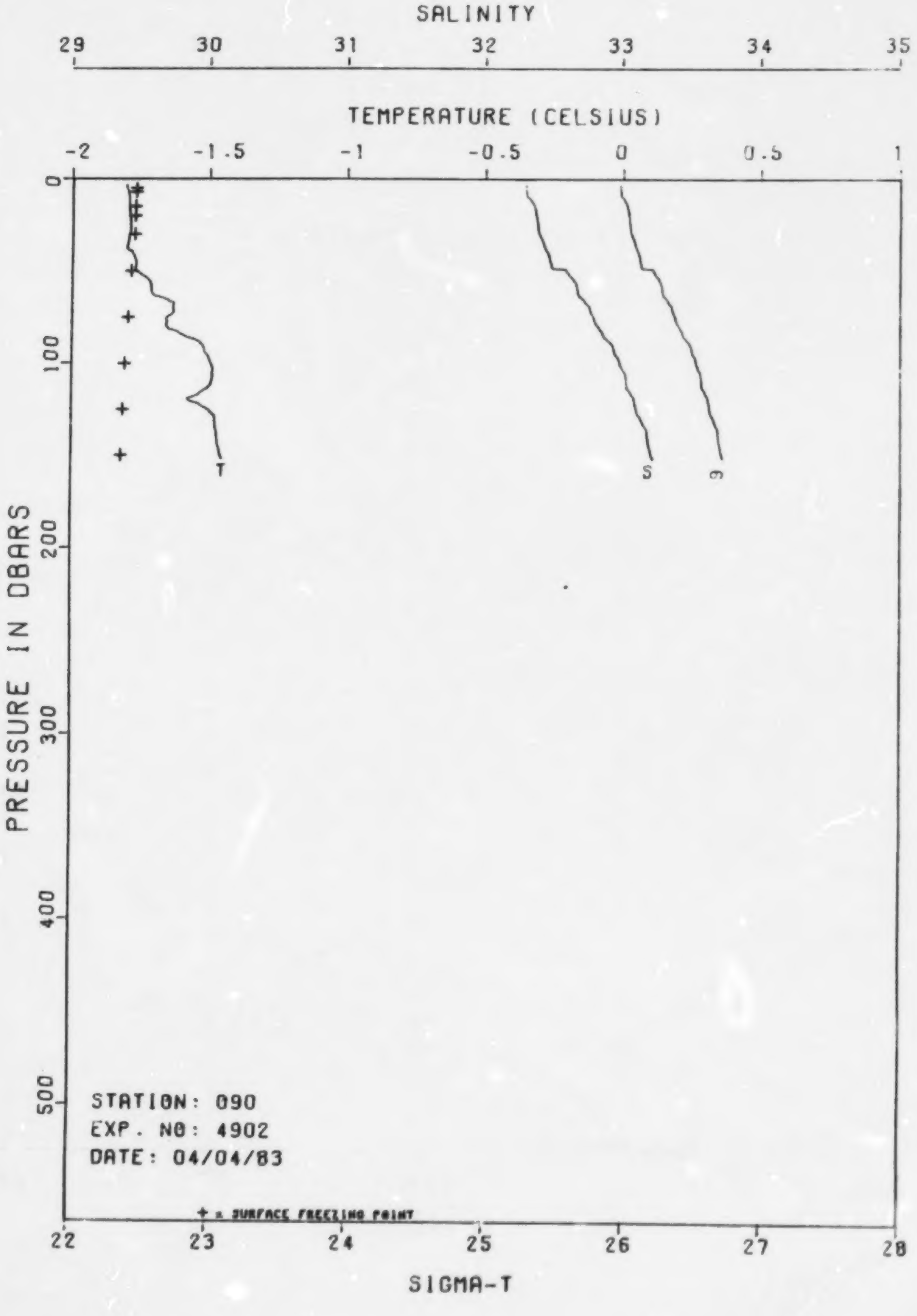
-1
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T


SALINITY
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30
31
32
33
34
35
TEMPERATURE (CELSIUS)
-2
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-1
-0.5
0
0.5
1
PRESSURE IN DBARS
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100
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STATION: 090
EXP. NO: 4902
DATE: 04/04/83
+ = SURFACE FREEZING POINT
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27
28
SIGMA-T

CRUISE 015-83-022   ARCTIC ISLANDS-83   SITE 090   EXPERIMENT 4902

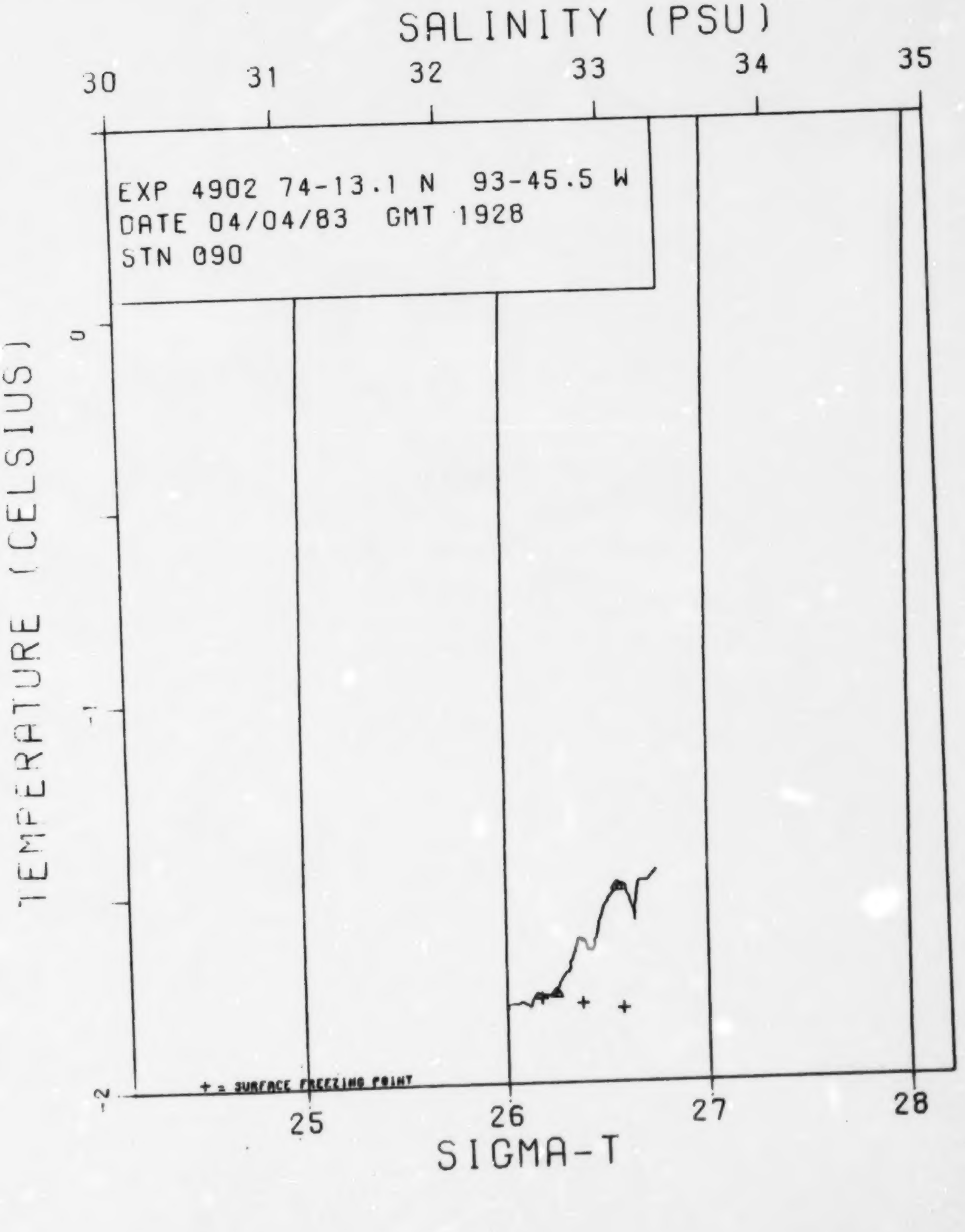
LAT.N. 74-13- 6   LON.W. 93-45-30   DATE 4/ 4/83   G.M.T. 1928

ICE THICKNESS 1.5 M   WATER DEPTH 0 M

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
3.4	-1.805	.59556	32.291	25.978	.007	1437.1
4.0	-1.804	.59555	32.269	25.977	.008	1437.1
5.0	-1.804	.59559	32.291	25.978	.010	1437.2
6.0	-1.802	.59563	32.269	25.977	.012	1437.2
7.0	-1.796	.59585	32.295	25.982	.014	1437.2
8.0	-1.796	.59586	32.296	25.982	.016	1437.3
9.0	-1.795	.59589	32.296	25.983	.018	1437.3
10.0	-1.794	.59602	32.302	25.988	.020	1437.3
11.0	-1.794	.59640	32.324	26.005	.022	1437.4
12.0	-1.793	.59655	32.332	26.011	.024	1437.4
13.0	-1.793	.59672	32.341	26.019	.026	1437.4
14.0	-1.793	.59687	32.349	26.025	.028	1437.4
15.0	-1.793	.59696	32.353	26.029	.030	1437.5
16.0	-1.793	.59701	32.356	26.031	.032	1437.5
17.0	-1.793	.59708	32.360	26.034	.034	1437.5
18.0	-1.793	.59716	32.363	26.037	.036	1437.5
19.0	-1.793	.59718	32.364	26.038	.038	1437.6
20.0	-1.792	.59723	32.366	26.039	.040	1437.6
21.0	-1.791	.59730	32.368	26.040	.042	1437.6
22.0	-1.788	.59739	32.369	26.042	.044	1437.6
23.0	-1.789	.59743	32.373	26.045	.046	1437.6
24.0	-1.788	.59752	32.376	26.048	.048	1437.7
25.0	-1.789	.59754	32.377	26.048	.050	1437.7
27.5	-1.789	.59765	32.382	26.052	.055	1437.7
30.0	-1.791	.59780	32.393	26.061	.059	1437.8
32.5	-1.796	.59801	32.409	26.074	.064	1437.8
35.0	-1.797	.59618	32.418	26.082	.069	1437.9
37.5	-1.801	.59834	32.430	26.092	.074	1437.9
40.0	-1.779	.59907	32.449	26.107	.079	1438.1
42.5	-1.772	.59947	32.464	26.118	.083	1438.2
45.0	-1.767	.59972	32.471	26.124	.088	1438.3
47.5	-1.769	.59987	32.480	26.131	.093	1438.3
50.0	-1.765	.60172	32.585	26.217	.097	1438.5
55.0	-1.722	.60350	32.641	26.261	.106	1438.9
60.0	-1.712	.60415	32.665	26.280	.115	1439.0
65.0	-1.660	.60586	32.706	26.313	.123	1439.4
70.0	-1.634	.60722	32.755	26.352	.132	1439.7
75.0	-1.653	.60739	32.764	26.376	.140	1439.7
80.0	-1.658	.60794	32.818	26.404	.148	1439.8
85.0	-1.591	.60983	32.853	26.430	.156	1440.3
90.0	-1.525	.61218	32.916	26.480	.164	1440.8
95.0	-1.511	.61292	32.942	26.500	.171	1440.9
100.0	-1.495	.61386	32.976	26.528	.179	1441.2
105.0	-1.490	.61461	33.012	26.557	.186	1441.3

SITE 090 EXPERIMENT 4902

PRESSURE (DBARS)	TEMP (DEG.C)	COND. R	SALINITY	SIGMAT (KG/M**3)	DHA (DYN.M)	SOUND (M/S)
110.0	-1.493	.61479	33.023	26.566	.193	1441.4
115.0	-1.524	.61471	33.050	26.568	.201	1441.4
120.0	-1.578	.61426	33.080	26.615	.208	1441.2
125.0	-1.506	.61590	33.093	26.625	.215	1441.7
130.0	-1.478	.61705	33.128	26.651	.222	1441.9
135.0	-1.478	.61769	33.161	26.678	.229	1442.1
140.0	-1.472	.61799	33.171	26.685	.235	1442.2
145.0	-1.468	.61839	33.166	26.696	.242	1442.3
150.0	-1.458	.61894	33.205	26.713	.246	1442.5
151.9	-1.452	.61926	33.216	26.722	.251	1442.5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34
35
EXP 4902 74-13.1 N 93-45.5 W
DATE 04/04/83 GMT 1928
STN 090
TEMPERATURE (CELSIUS)
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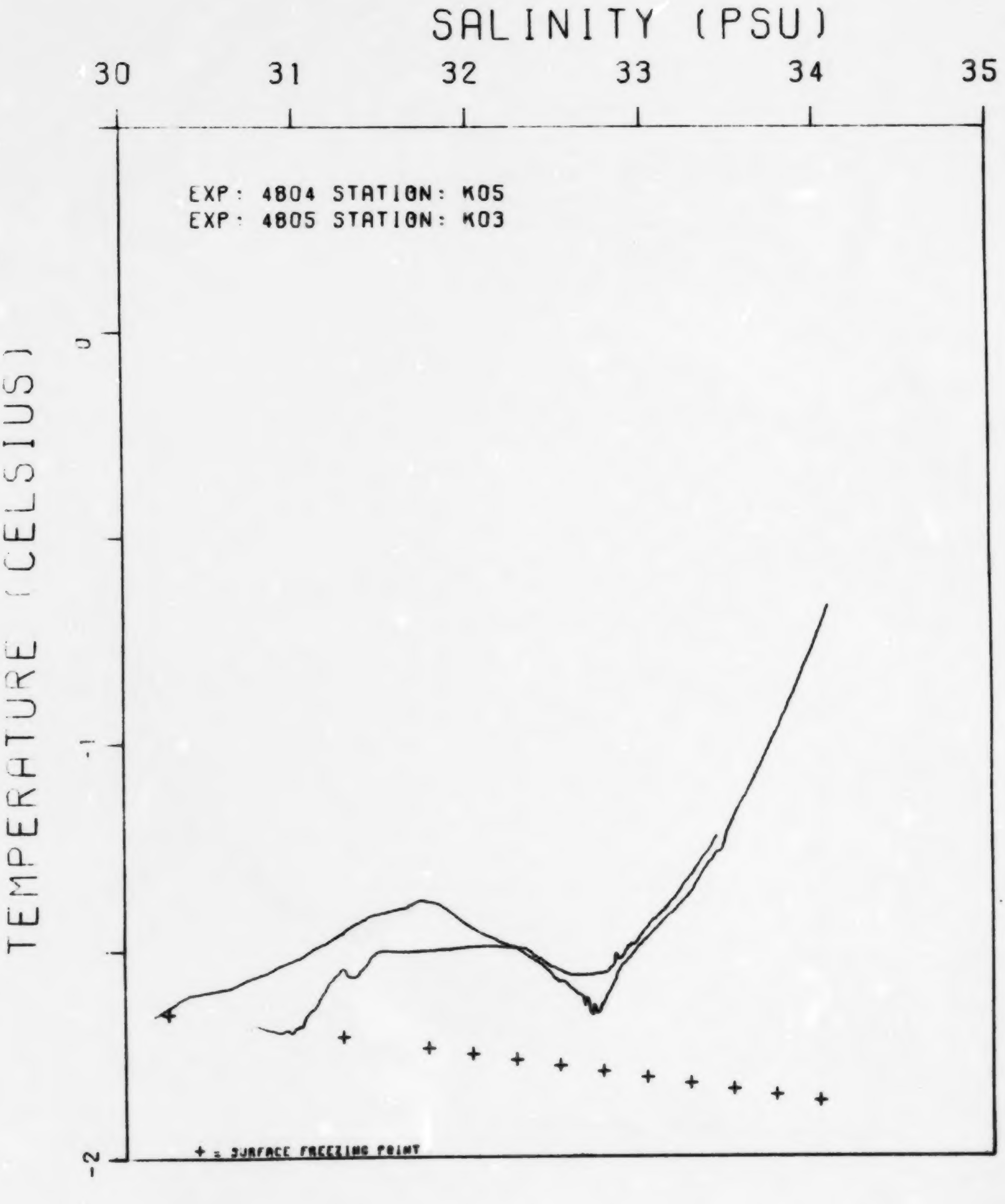
-1
-2
+ = SURFACE FREEZING POINT
25
26
27
28
SIGMA-T

APPENDIX 2

COMPOSITE T-S DIAGRAM BY SECTIONS


SALINITY (PSU)
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31
32
33
34
35
TEMPERATURE (CELSIUS)
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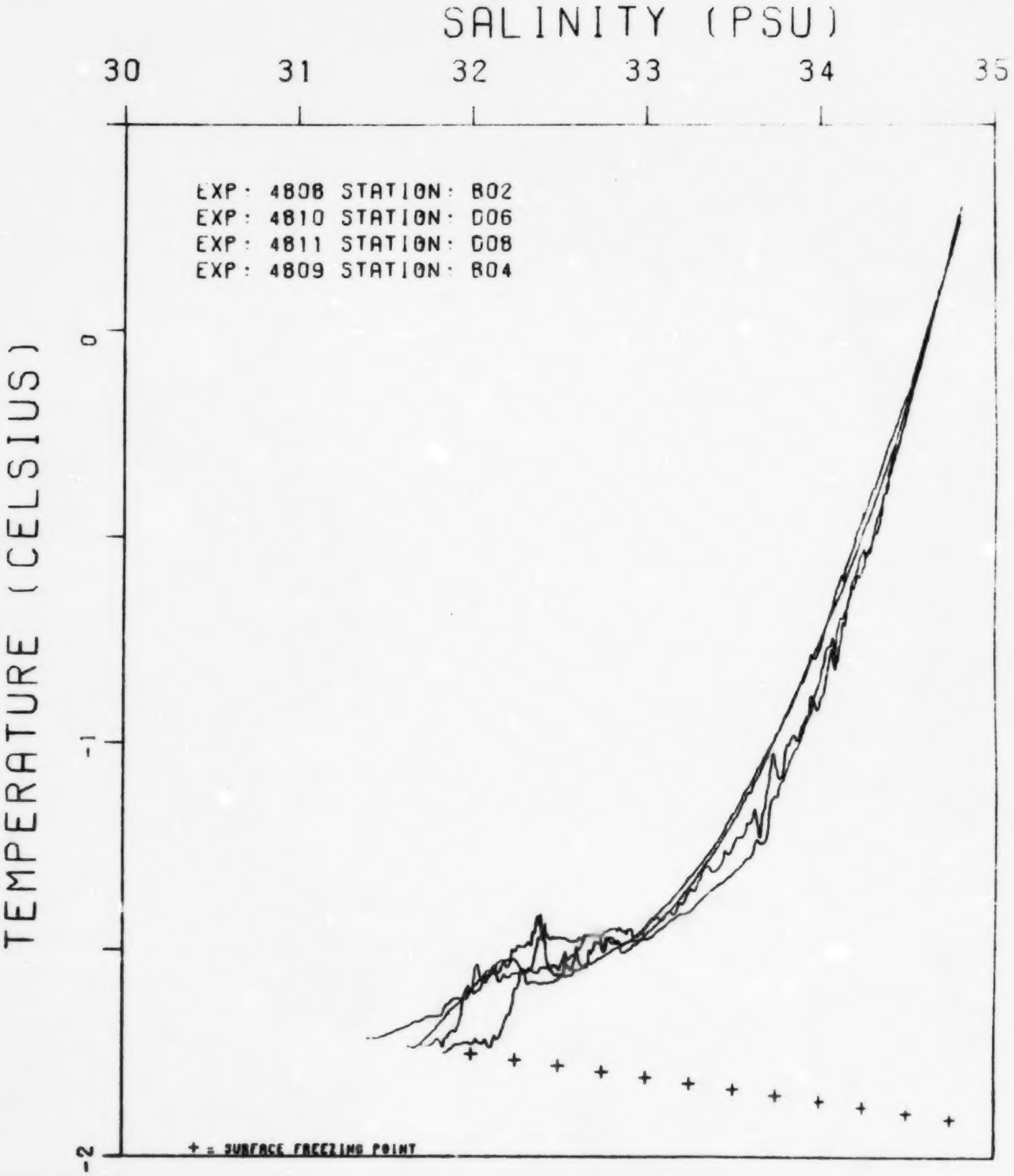
-1
-2
EXP: 4804 STATION: K05
EXP: 4805 STATION: K03
+ = SURFACE FREEZING POINT


SALINITY (PSU)
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32
33
34
35
TEMPERATURE (CELSIUS)
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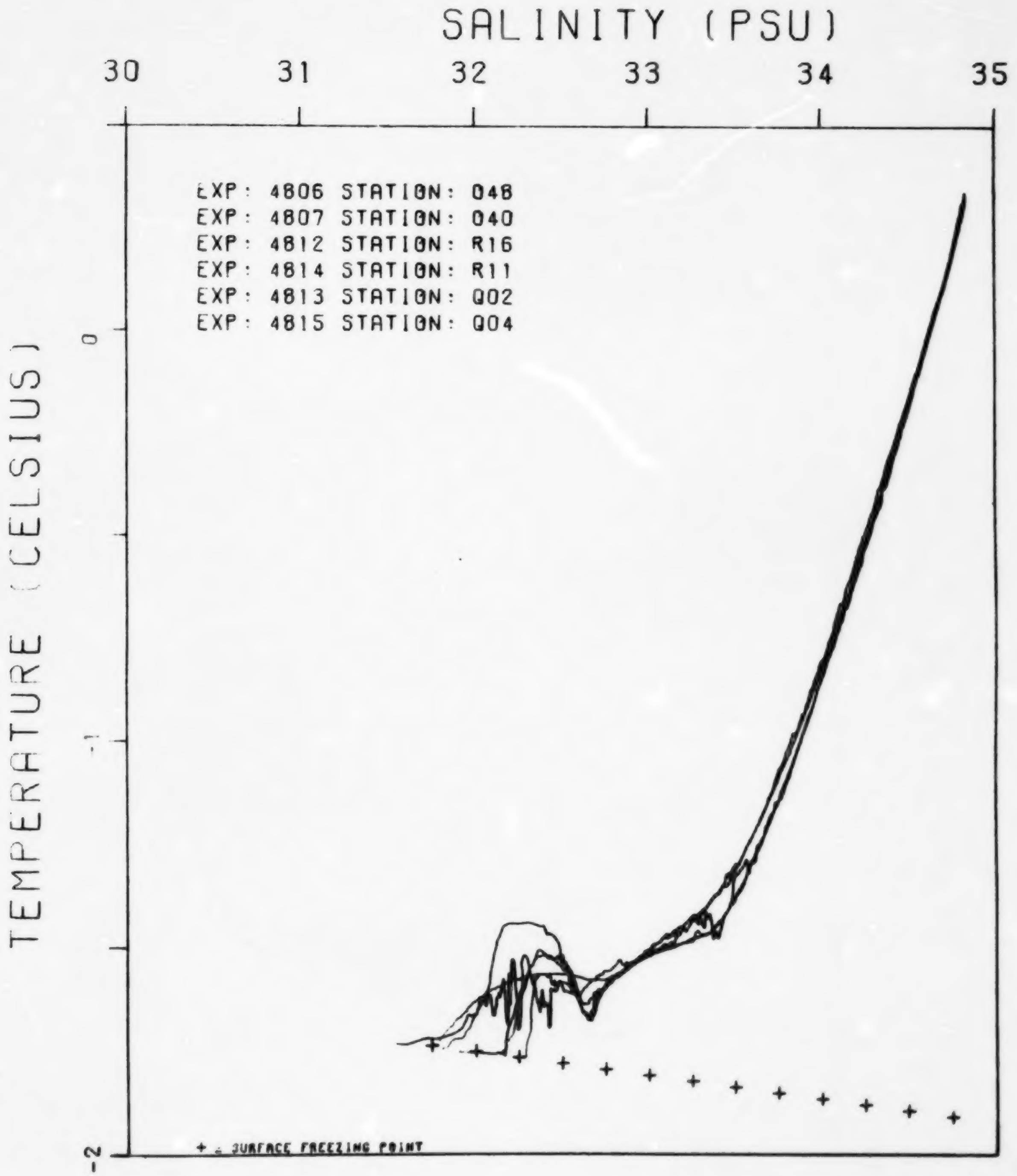
-1
-2
EXP: 4808 STATION: B02
EXP: 4810 STATION: D06
EXP: 4811 STATION: D08
EXP: 4809 STATION: B04
+ = SURFACE FREEZING POINT


SALINITY (PSU)
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
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-1
-2
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EXP: 4807 STATION: 040
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EXP: 4814 STATION: R11
EXP: 4813 STATION: Q02
EXP: 4815 STATION: Q04
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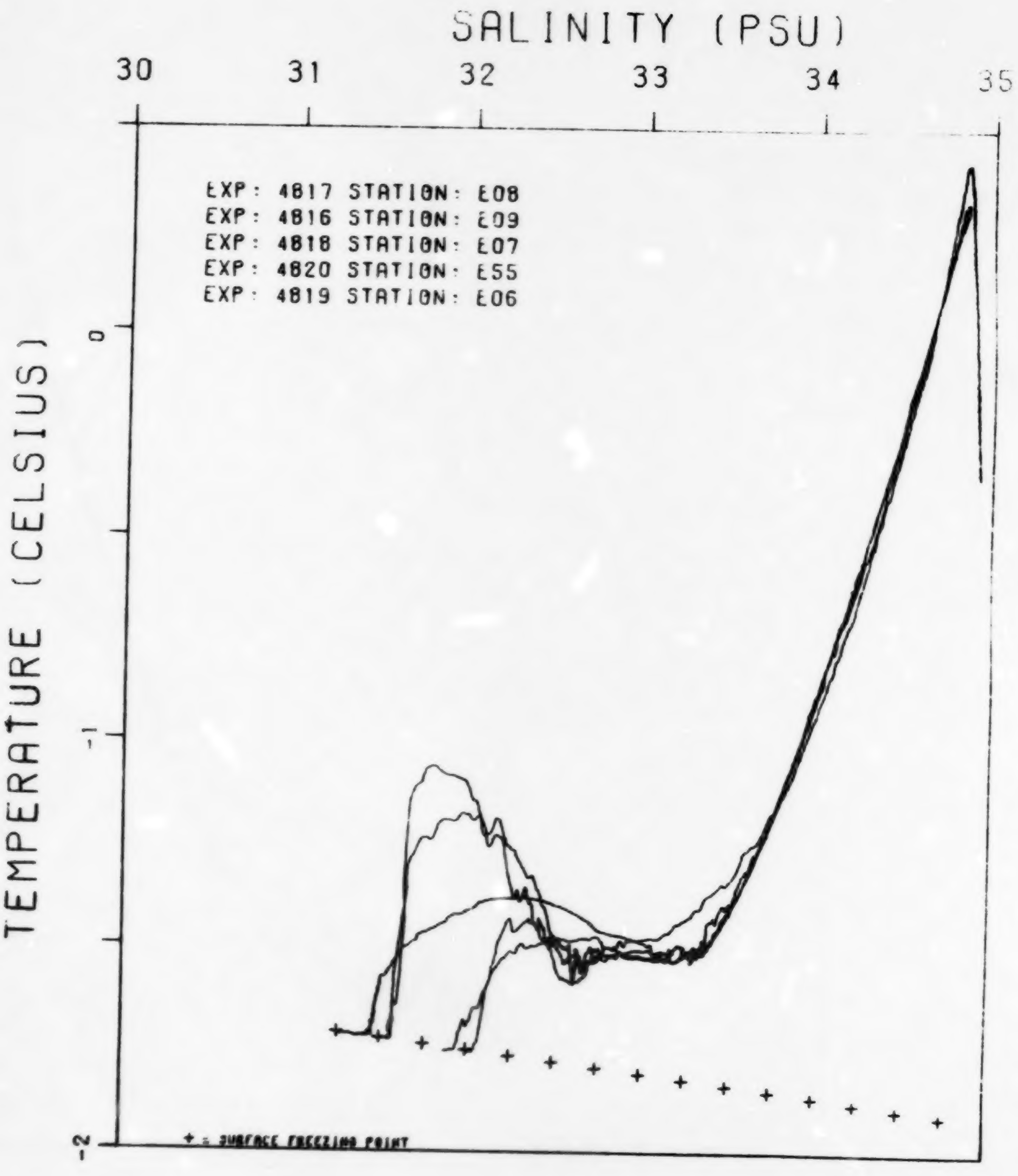
SALINITY (PSU)
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31
32
33
34
35
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EXP: 4818 STATION: E07
EXP: 4820 STATION: E55
EXP: 4819 STATION: E06
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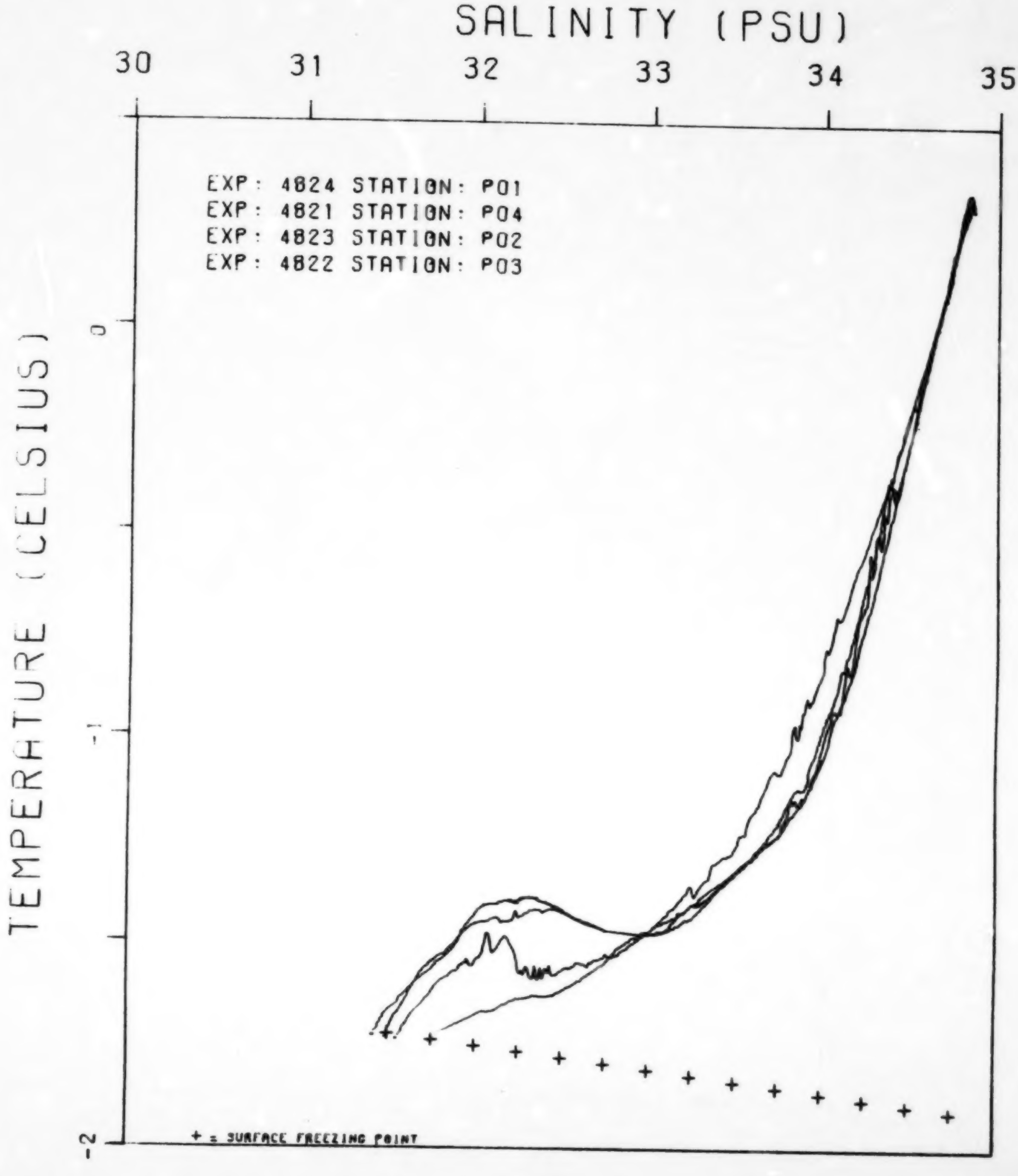
-2
+ = SURFACE FREEZING POINT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31
32
33
34
35
TEMPERATURE (CELSIUS)
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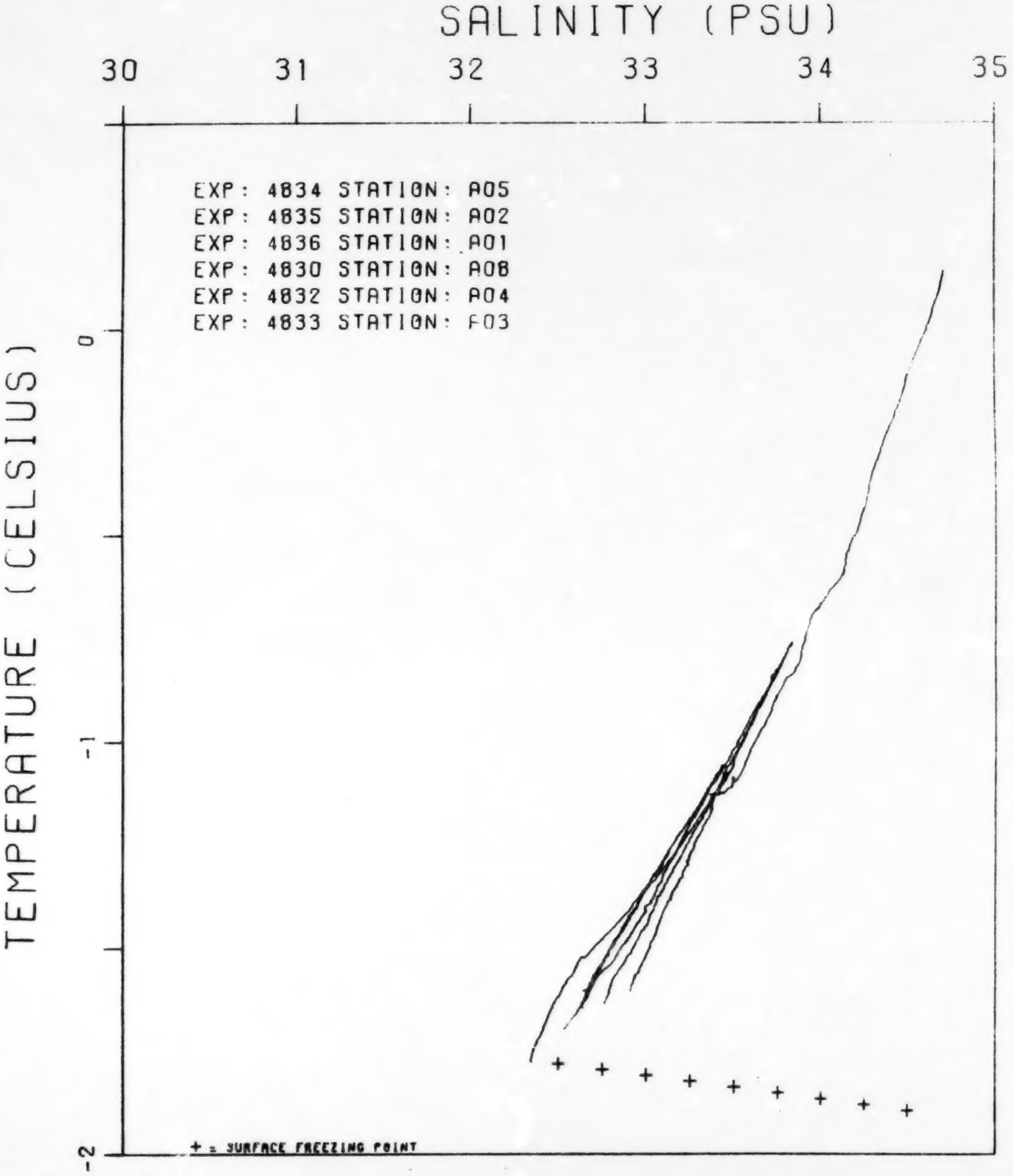
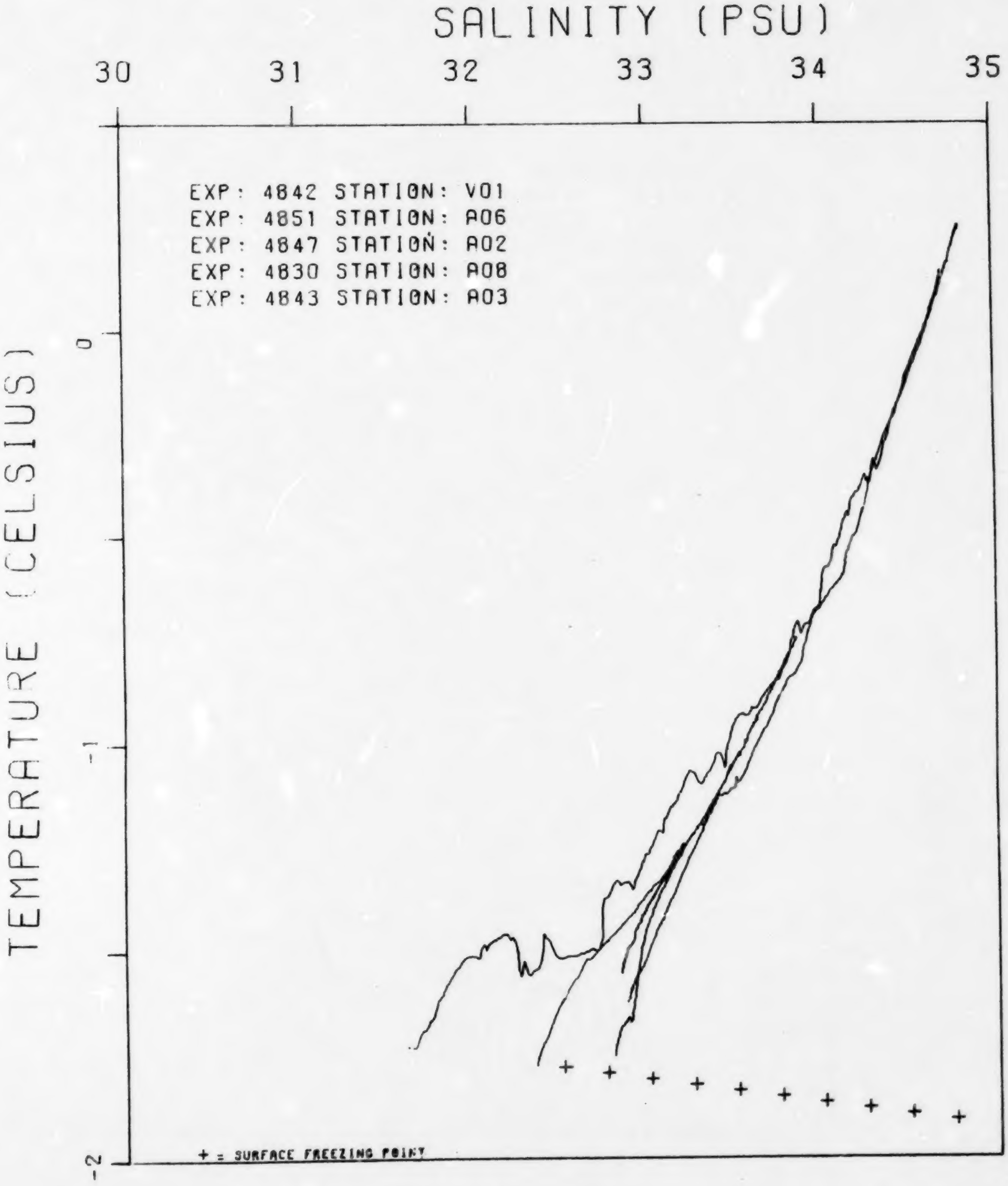
-1
-2
EXP: 4824 STATION: P01
EXP: 4821 STATION: P04
EXP: 4823 STATION: P02
EXP: 4822 STATION: P03
+ = SURFACE FREEZING POINT


SALINITY (PSU)
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
0
-1
-2
EXP: 4834 STATION: A05
EXP: 4835 STATION: A02
EXP: 4836 STATION: A01
EXP: 4830 STATION: A08
EXP: 4832 STATION: A04
EXP: 4833 STATION: F03
+ = SURFACE FREEZING POINT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31
32
33
34
35
TEMPERATURE (CELSIUS)
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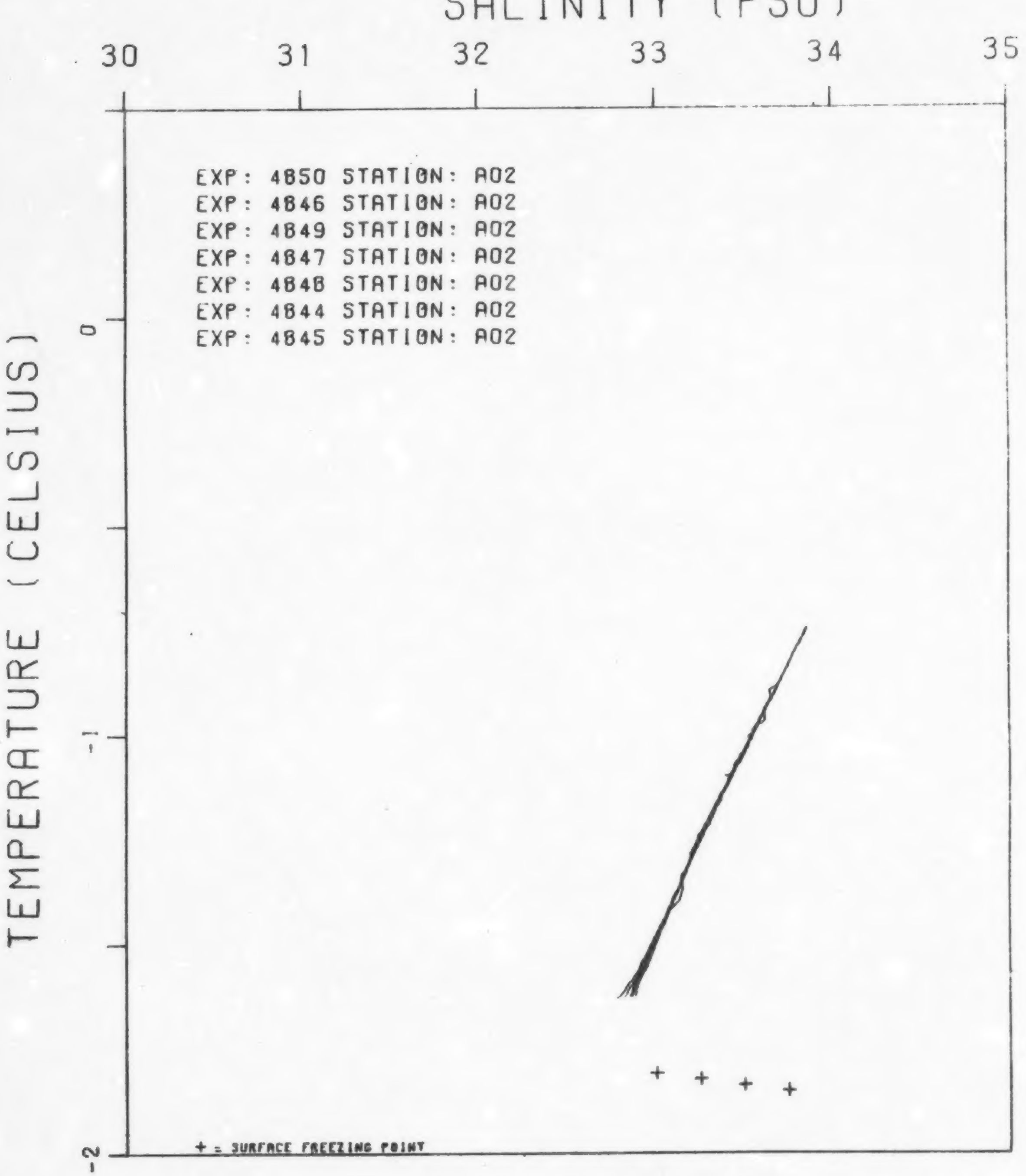
-1
-2
EXP: 4842 STATION: V01
EXP: 4851 STATION: A06
EXP: 4847 STATION: A02
EXP: 4830 STATION: A08
EXP: 4843 STATION: A03
+ = SURFACE FREEZING POINT


SALINITY (PSU)
30
31
32
33
34
35
TEMPERATURE (CELSIUS)
0
-1
-2
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EXP: 4846 STATION: A02
EXP: 4849 STATION: A02
EXP: 4847 STATION: A02
EXP: 4848 STATION: A02
EXP: 4844 STATION: A02
EXP: 4845 STATION: A02
+ = SURFACE FREEZING POINT

APPENDIX 3

NUTRIENT DATA LISTINGS

Nutrient concentrations were in most cases determined in triplicate at each sampled level. To choose the "best" value for nutrient concentration shown in Table A3-1 the following procedure was used:

1. For each nutrient, the root-mean-square deviation from 1.0 of ratios to the median at each sampled level was determined.
2. Ratios at each sampled level were compared to the root-mean-square deviation σ, and the corresponding nutrient concentrations were discarded if the difference of the ratio from 1.0 exceeded 1.25 σ, or if the two ratios were asymmetrically distributed about 1.0 by more than 0.5 σ.
3. Remaining nutrient concentration values were averaged at each sampled level.

For this data set, the root-mean-square deviations, expressed as percentages, were:

Silicate	12.5%
Nitrate	10.5%
Phosphate	16.3%

Table A3-1

EXP #	STN	DEPTH	LEVEL	TEMP	SALINITY	SILICATE	NITRATE	PHOSPHATE
		M	DB	C	PSS78	MMOL PER	CUBIC	METRE
4801	83P09	223.	19.	-1.72	32.85	24.8	10.7	1.05
			30.	-1.69	32.94	25.6	12.0	1.24
			234.	-1.46	33.13	27.7	12.9	1.66
4804	83M05	201.	19.	-1.41	31.44	10.4	3.0	1.13
			80.	-1.55	32.84	29.3	13.1	1.76
			150.	-1.05	33.67	38.2	18.8	1.85
			164.	-.87	33.86	36.9	18.9	2.03
4806	83049	440.	9.	-1.71	31.85	5.6	.4	1.16
			89.	-1.57	32.80	28.9	13.4	1.89
			150.	-1.27	33.59	36.6	17.8	1.92
			439.	.32	34.82	29.9	19.7	2.06
4808	83M07	300.	16.	-1.75	31.85	8.3	2.5	1.13
			85.	-1.51	32.76	28.4	13.4	1.66
			135.	-1.17	33.51	34.8	18.7	1.72
			299.	.27	34.80	16.9	16.5	1.08
4809	83B04	316.	24.	-1.74	31.68	10.0	3.4	1.33
			90.	-1.48	32.82	35.6	16.2	1.93
			186.	-.56	34.25	25.8	16.8	1.59
			301.	.15	34.72	20.5	16.9	1.44
4812	83P16	403.	19.	-1.76	32.29	10.4	3.8	1.27
			85.	-1.55	32.79	28.5	13.5	1.85
			160.	-1.21	33.67	35.8	17.8	1.73
			351.	.26	34.79	28.5	20.2	1.73
4814	83P11	496.	19.	-1.75	31.81	4.8	1.2	1.26
			90.	-1.56	32.84	25.8	12.2	1.87
			160.	-1.29	33.59	35.2	17.0	2.01
			412.	.31	34.82	28.0	19.4	1.16
4817	83E08	399.	24.	-1.75	31.99	5.7	1.4	1.01
			105.	-1.50	32.82	32.4	15.7	1.83
			160.	-1.27	33.58	37.8	18.5	1.82
			376.	.32	34.82	36.2	19.8	1.48
4819	83E06	484.	14.	-1.77	31.55	6.4	1.3	.59
			85.	-1.52	32.83	29.0	13.7	1.82
			160.	-1.36	33.59	31.7	14.9	1.98
			352.	.23	34.79	25.0	18.1	1.40
4821	83P04	348.	26.	-1.73	31.49	6.7	1.7	.77
			99.	-1.47	32.79	32.3	14.6	1.95
			160.	-1.26	33.67	36.1	17.5	1.96
			390.	.32	34.81	15.6	15.2	1.13
4824	83P01	495.	19.	-1.75	31.73	11.1	3.7	1.26
			85.	-1.59	32.89	31.8	14.1	1.86
			160.	-1.10	33.69	29.5	17.1	1.80
			398.	.27	34.81	19.5	15.4	1.13
4825	83L02	330.	19.	-1.78	32.36	10.1	6.5	1.56
			100.	-1.75	32.80	22.3	9.8	1.53
			220.	-1.29	33.30	30.2	14.4	1.67
			277.	-.84	33.78	29.3	14.8	1.58
4827	83M01	385.	49.	-1.81	32.87	16.8	7.7	1.48
			110.	-1.67	33.04	16.3	7.5	1.49
			175.	-1.16	33.56	17.8	12.1	1.31
			337.	.25	34.18	22.4	15.5	1.70
4829	83M07	419.	49.	-1.80	32.89	17.6	7.8	1.42
			160.	-1.68	33.04	24.7	12.1	1.59
			190.	-1.48	33.17	29.5	14.4	1.97
			332.	.28	34.17	24.0	13.7	1.58
4832	83A06	168.	19.	-1.67	32.59	20.2	8.9	1.51
			44.	-1.51	32.79	25.7	11.1	1.51
			59.	-1.41	32.92	25.7	12.0	1.60
			124.	-1.12	33.39	25.2	9.4	1.61
4835	83A02	253.	19.	-1.62	32.77	25.8	12.0	1.44
			75.	-1.44	33.00	16.0	8.4	1.56
			209.	-.96	33.59	28.2	14.8	1.62
			260.	-.89	33.79	26.0	14.9	1.46
4837	83L06	295.	24.	-1.78	32.36	10.4	4.2	1.20
			110.	-1.75	32.82	10.5	5.2	1.40
			180.	-1.67	33.09	27.2	12.7	1.46
			260.	-1.10	33.57	33.8	15.7	1.66
4842	83V01	447.	14.	-1.73	31.63	11.6	4.1	1.01
			39.	-1.51	32.56	27.2	11.8	1.99
			129.	-.96	33.56	27.8	15.1	2.02
			381.	.27	34.89	18.9	15.9	1.16
4844	83A02	376.	259.	-.86	33.76	24.3	16.4	1.59
			301.	-.79	33.89	26.1	16.8	1.81
			366.	-.76	33.85	26.7	16.6	1.99
4845	83A02	378.	159.	-1.10	33.42	24.9	12.4	1.96
			216.	-.93	33.63	25.3	16.4	1.70
4846	83A02	380.	16.	-1.61	32.86	21.8	11.4	1.95
			49.	-1.57	32.95	23.4	12.7	1.72
			102.	-1.21	33.29	25.2	12.5	1.96

APPENDIX 4

SUMMARY OF CTD DATA ERROR REMOVAL

APPENDIX 4: SUMMARY OF CTD ERROR REMOVAL

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4800	S01	20 Mar	0	0	0	0	
4801	089	21 Mar	1	1	1	0	
4802	089	21 Mar	N/A	0	0	N/A	Probe #6 - no pressure signal - only processed to raw data stage.
4803	K05	22 Mar	1	1	1	1	Probe #6 - Intercomparison.
4804	K05	22 Mar	0	0	0	1	Intercomparison station.
4805	K03	23 Mar	0	0	0	6	
4806	048	23 Mar	0	0	0	2	
4807	040	23 Mar	4	3	0	7	Errors include 4 successive scans at 347.07-347.26 dbar due to apparent conductivity/salinity signal dropout. Within this interval, salinities are reduced by 0.035 from preceding and following values.
4808	B02	24 Mar	1	0	0	6	
4809	B04	24 Mar	4	4	3	1	
4810	D06	24 Mar	0	0	1	3	
4811	D08	24 Mar	1	1	0	3	
4812	R16	25 Mar	0	0	3	3	

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4813	Q02	25 Mar	0	0	0	25	Errors include 3 successive scans at 129.99 to 130.18 dbar due to alternating differences of approximately 0.015 in salinity. Generally larger degree of small scale variability in conductivity and salinity profile at all depths.
4814	R11	25 Mar	0	0	0	2	
4815	Q04	25 Mar	0	0	0	0	
4816	E09	26 Mar	1	6	2	43	Many small scale variations in the salinity profite with amplitudes generally decreasing with depth.
4817	E08	26 Mar	2	3	1	2	Small scale variations present from 5 to 15 dbar.
4818	E07	26 Mar	0	2	2	58	Burst of high wavenumber variations from 67 to 95 dbar, followed by intermittent spikes at greater depths. The number of these intermittent spikes increases from 368 to 484 dbar.
4819	E06	26 Mar	0	3	2	2	Burst of high wavenumber varia- in the conductivity and salinity profiles from 7 to 27 dbar.

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4820	E55	27 Mar	1	0	0	72	High wavenumber variations in conductivity and salinity throughout the profile. Amplitude and frequency of occurrence of these variations tend to decrease with increasing pressure.
4821	P04	27 Mar	1	3	1	2	
4822	P03	27 Mar	4	1	2	150	High wavenumber variations in the conductivity and salinity profiles. Amplitudes are relatively large from 4 to 108 dbar particularly from 51 to 55 dbar where r.m.s. amplitudes are approximately 0.015 for salinity. A general decrease occurs in both amplitude and number of occurrences with increasing depth below 108 dbar.
4823	P02	27 Mar	0	0	1	8	
4824	P01	27 Mar	1	2	1	2	
4825	L02	28 Mar	3	3	3	3	
4826	L05	28 Mar	0	1	1	10	A few salinity minimums consisting of 2 or 3 scans within each from 10 to 13 dbar, with amplitudes of 0.010 or less.

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4827	N01	28 Mar	0	0	0	5	Many small amplitude (<0.010) high wavenumber conductivity salinity variations from 110 to 125 dbar.
4828	N09	28 Mar	1	3	2	169	A series of single point spikes in conductivity/salinity is present throughout the profile. In addition, high wavenumber but small amplitude C/S variations occur in bursts, throughout the profile, with more common occurrences at pressures greater than 280 dbar. A set of 10 successive scans, over pressure of 115.0 to 115.6 dbar, was judged as erroneous, due to a sudden sharp increase in salinity followed by a decrease and further oscillations. Amplitudes were up to 0.036 in salinity.
4829	N08	28 Mar	3	3	3	3	
4830	A08	29 Mar	0	0	0	4	
4831	A01	29 Mar	0	0	2	48	High wavenumber variability in C/S throughout the profile. A set of alternate multi-scan maxima and minima occurs from 64 to 67 dbar.

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors			No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
			P	T	C		
4832	A04	29 Mar	0	0	1	2	
4833	A03	29 Mar	0	0	0	7	
4834	A05	29 Mar	0	0	0	4	
4835	A02	29 Mar	3	0	0	2	Very complicated T/C/S structures with salinity first differences of up to 0.025 at 136 to 138 dbar. Much of this was considered plausible due to the very complex structure.
4836	A01	29 Mar	1	1	1	8	Inversions present in T/C/S profiles from 127 to 130 dbar. Have spatial scales of approximately 1 dbar, these are believed to be real.
4837	L06	30 Mar	0	1	0	1	

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors			No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
			P	T	C		
4838	L04	30 Mar	12	7	11	18	Intermittent occurrences of high wavenumber spatial variations in C/S over uppermost 75 dbar and from 154 to 168 dbar. Over this latter pressure interval, from 154.8 to 155.5 dbar, a large abrupt salinity increase of 0.025 (over 6 scans) is followed by rapid decrease of 0.060 (over 3 scans) and then within a single point back to median values. The 3 scans of low salinity were judged erroneous but the remaining values were not rejected.
4839	L03	30 Mar	0	0	0	185	A C/S minimum followed by a maximum at 29.2 to 30.2 dbar was judged erroneous and deleted. In addition, a data segment from 49.2 to 59.2 dbar, containing high wavenumber variations with typical r.m.s. amplitudes of 0.015 was deleted.
4840	L02	30 Mar	0	0	0	3	
4841	L01	30 Mar	0	0	0	1	
4842	V01	1 Apr	1	2	1	3	

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4843	A03	1 Apr	0	0	0	14	Many of the errors were single scan maxima in the C/S profiles over the uppermost 40 dbar. In addition, small but pronounced C/S inversions occurred at 70-75 dbar, but these are believed to be real and related to similar features in the T profile.
4844	A02	1 Apr	1	1	2	1	
4845	A02	1 Apr	0	1	1	5	Four consecutive scans at 150 dbar, having a very large C/S spike of 0.170 in salinity (peak) were removed. Complicated set of multi-scan maxima and minima in T/C/S at 180 dbar and 190-194 dbar.
4846	A02	1 Apr	0	2	2	1	Complex multi-scan T/C/S structures, particularly at 104 to 114 dbar and 183 to 234 dbar.
4847	A02	1 Apr	3	4	4	25	High wavenumber variability of C/S profiles from 5 to 28 dbar and from 45 to 49 dbar. Complex multi-scan T/C/S structures at 157 to 171 dbar.

APPENDIX 4 (Cont'd)

Exp. No.	Station	Date	No. of First Phase Errors P	T	C	No. of Second Phase Salinity Errors	Second Phase[1] Other Errors/Comments
4848	A02	1 Apr	2	3	1	12	High wavenumber variability of C/S profiles from 4 to 27 dbar. Complex multi-scan T/C/S structures between 135 and 165 dbar.
4849	A02	1 Apr	1	1	2	23	High wavenumber variability in the C/S profiles of moderate amplitude (0.005 to 0.010 for salinity) occurring in burst throughout the profile, with a tendency for reduction in amplitude and frequency of occurrence with increasing depth.
4850	A02	1 Apr	6	12	5	17	High wavenumber variability throughout the C/S profiles, with largest amplitudes at 4 to 27 dbar.
4851	A06	2 Apr	1	1	1	24	High wavenumber variability throughout the C/S profiles.
4852	090	4 Apr	0	0	0	0	Intercomparison - Probe #4.
4900	090	4 Apr	0	1	1	1	Intercomparison - Probe #5.
4901	090	4 Apr	0	0	1	6	Intercomparison - Probe #6.
4902	090	4 Apr	10	10	10	0	Probe #6 - Missing data over pressures of 9.8 to 10.8 dbar.

[1] CTD unit was Probe #4 unless stated otherwise.

POOR

QUALITY

ORIGINAL